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DOMESTIC ENGINEERING

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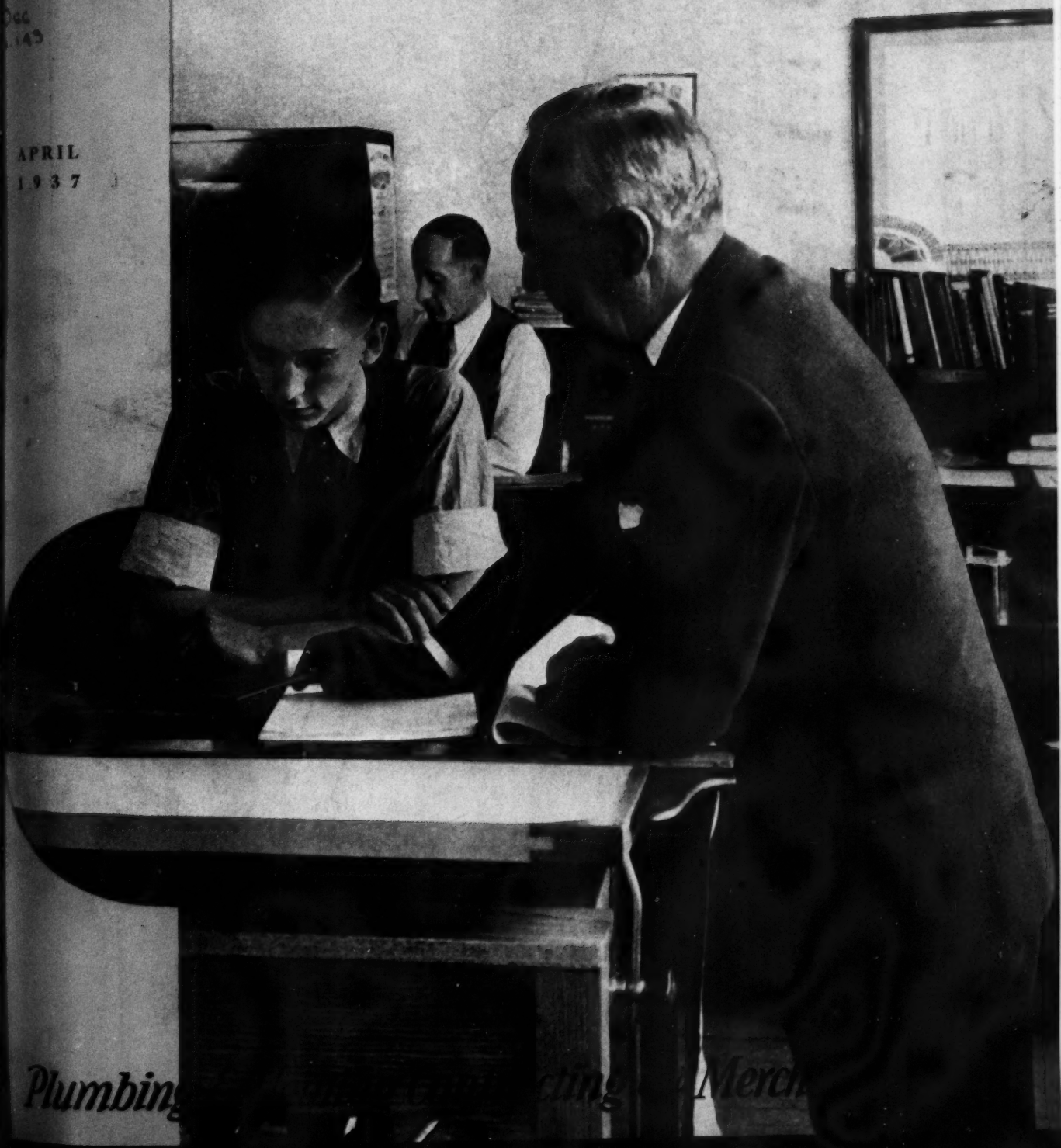
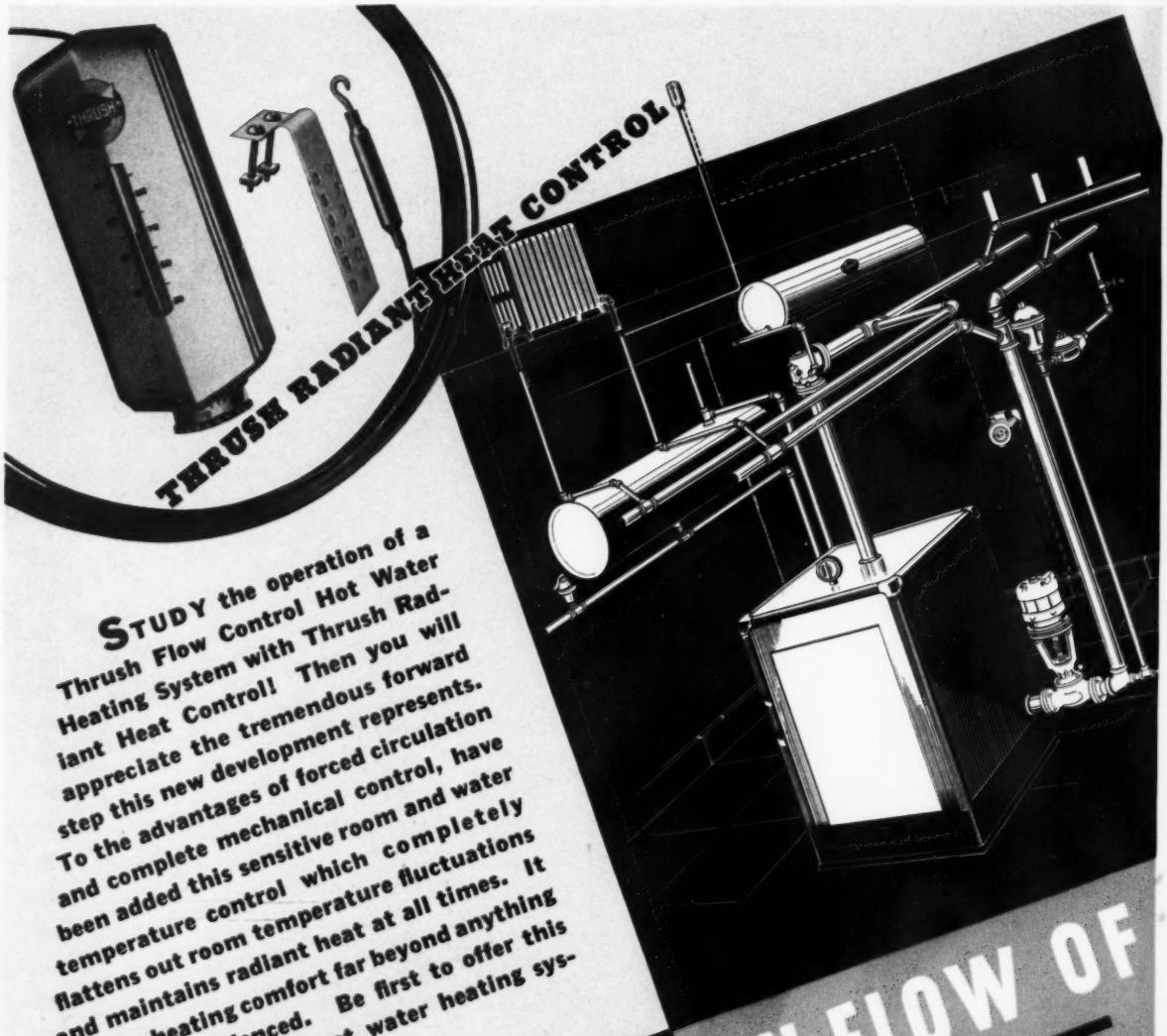
1937



Plumbing [illegible] Merch



STUDY the operation of a Thrush Flow Control Hot Water Heating System with Thrush Radiant Heat Control! Then you will appreciate the tremendous forward step this new development represents. To the advantages of forced circulation and complete mechanical control, have been added this sensitive room and water temperature control which completely flattens out room temperature fluctuations and maintains radiant heat at all times. It provides heating comfort far beyond anything previously experienced. Be first to offer this complete, coordinated hot water heating system in your community!

A CONTINUOUS EVEN FLOW OF HEAT

NO STRATIFICATION
NO "COLD TOE" WITH

THRUSH FLOW CONTROL SYSTEM OF HOT WATER HEATING

H. A. THRUSH & CO., BOX 459, PERU, IND.

Please tell us more about the complete Thrush Flow Control System.

NAME _____ ADDRESS _____

CITY _____ STATE _____

Dependable in all kinds of weather; Economical for all installations.

VOGEL PATENTED

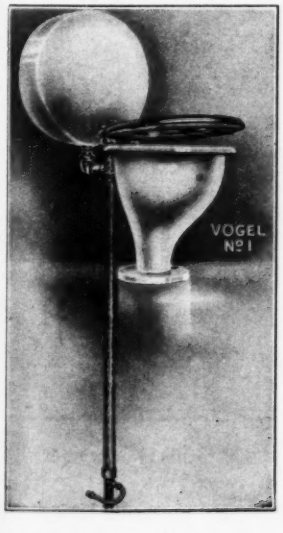
FROST-PROOF CLOSETS AND HYDRANTS

VOGEL Frost-Proof Closets and Hydrants have been installed in all parts of the country and in many foreign countries. They give satisfactory and economical service under all conditions, and in more than 25 years we have no record of one of our outfits ever having frozen when properly installed.

Another fact—just as important—is that **VOGEL** Closets and Hydrants are profitable for plumbers to handle, and the more you install the more satisfied customers you will have.

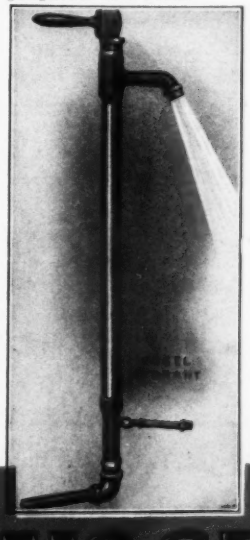
JOSEPH A. VOGEL CO.
Wilmington, Del.
St. Louis, Mo.

Vogel No. 1—Many thousands in use in all parts of the country. Cannot freeze, no matter how cold the weather.



Vogel No. 4—Frost-Proof. China bowl, top supply. Same valve as the Vogel No. 1. As good-looking as a bathroom closet.

Vogel Frost-Proof Hydrant for outside installation and for use on farms, dairies and in unheated garages. Can never freeze.



VOGEL PATENTED

FROST-PROOF PRODUCTS

DOMESTIC ENGINEERING

Plumbing & Heating Contracting and Merchandising

April, 1937

Vol. 149, No. 4

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Thousands of tons of Toncan Iron Sheets fabricated into ducts protect the air conditioning systems of the Administration and Garage buildings of the famous Triborough Bridge, New York City. This rust-resisting metal was also used for construction of the toll stations.

TO RUST AND CORROSION

On ducts and sheet metal work of every type, this double-diamond trade-mark is the stop sign for rust and corrosion. And these insidious foes of sheet metal work are restrained in their costly attack—for underneath this sign is the modern alloy of highly refined iron, copper and molybdenum that resists rust and corrosion to a higher degree than any ferrous material in its price class.

In planning heating, air conditioning or ventilating systems, you can depend upon the completeness of the Republic line of sheets to meet your every requirement. Steel and copper-bearing steel in black, galvanized and galvannealed finishes are ideal for ordinary service. Where moist air or other corrosive conditions exist, use Toncan Iron. And for extreme service, there is Enduro Stainless Steel. All are available in standard sizes and gauges—all are ductile and easy to fabricate with modern equipment.

Write for full information and the name of your nearest Republic sheet distributor.

Republic Steel *Corporation*

REPUBLIC STEEL

GENERAL OFFICES . . . CLEVELAND, OHIO

When writing Republic Steel Corporation for further information, please address Department D. E.

Automatic regulators

ARE RAPIDLY EXPANDING THE MARKET FOR

ANTHRACITE WATER HEATERS

Hot water is always on tap in homes equipped with regulator-equipped Anthracite water heaters.

GO AFTER this fast-growing regulator-equipped Anthracite water heater business. People want hot water and always want it "right now".

More than half the homes in this country have no means of supplying abundant hot water always on tap. Anthracite water heaters with automatic regulation give this service at ⅓ the cost of any other fuel. The regulator saves many trips to adjust drafts. It keeps water hot, clean, and constantly on tap.

The public's interest in regulators and thermostats makes a big opportunity for the heating contractor. Sales are steadily increasing. Anthracite Industries, Inc., equipment manufacturers, and thousands of retail coal dealers are cooperating in a powerful sales drive on regulator-equipped Anthracite water heaters.

You are the first to benefit from this new business. You make three profits: from the sale of the regulators, Anthracite water heaters, and the work of installation.

Big additional market

You have a ready-made, additional market for regulators in homes already using Anthracite water heaters. These controls can be sold for only a few dollars and installed in a few minutes. Work with local coal dealers. They are a profitable source of new leads.

Anthracite Industries' newspaper advertising plus a field force of trained heating men are fostering thousands of heating plant modernization jobs and new Anthracite equipment installations. Go after this market, too. Ask for any help you need. ANTHRACITE INDUSTRIES, Inc., Chrysler Building, New York, N. Y.

• Water Heater regulators approved by Anthracite Industries Laboratory are manufactured by

American Radiator Company
40 West 40th St., New York

E. J. Deegan Mfg. Co.
291 E. 134th St., New York

Fulton Sylphon Company
Knoxville, Tenn.

James Regulator Company
Pottsville, Pa.

National Regulator Company
2317 Knox Avenue, Chicago, Ill.

Pennsylvania
ANTHRACITE
WATER HEATERS

Profits Today

—and a sound future

THAT'S THE DELCO-FRIGIDAIRE FRANCHISE

. . . a complete line of heating and cooling equipment backed by the powerful name of General Motors—and a far-seeing dealer plan that offers unusual opportunities to a certain number of alert business men

YOU'RE naturally interested in *present profits* . . . And you'll find them abundantly in the Delco-Frigidaire line of heating and cooling equipment. It includes automatic heating of all kinds and for all size houses, led by the sensational Delco Oil Burner—fastest selling oil burner in the world. And it includes cooling and air conditioning equipment for homes and businesses of all kinds—featuring the successful *Controlled-Cost* Air Conditioning.

But to you, as a sound business man, the *future* is of even greater importance.

And here the Delco-Frigidaire Franchise means *most*—for it offers you a chance to build a *lastingly* successful business.

Read the five major points of the Delco-Frigidaire Franchise shown on this page.

Then if you are interested, mail the coupon below.

Compare any other Franchise with these

5 DELCO-FRIGIDAIRE ADVANTAGES

1 The power of the name *General Motors* . . . and the proven record of General Motors in taking its dealers to the top.

2 A *complete* line of heating and cooling equipment . . . offering such *proven* sales arguments as the Thin-Mix Fuel Control and *Controlled-Cost* Air Conditioning.

3 The right products at prices so competitive that *no sale need be lost.*

4 Accepted national leadership and widespread public acceptance.

5 Dominant and convincing advertising and sales promotion that tells a competitive story—*both* nationally and locally.

Write for more information about this great Franchise

MAIL THIS COUPON TODAY

Delco-Frigidaire Conditioning Division
General Motors Sales Corporation
Dayton, Ohio—Dept. DE-4

I am interested in your Franchise. Please send me complete information at once.

*Name*_____

*Address*_____

*City and State*_____

It pays to have this Franchise

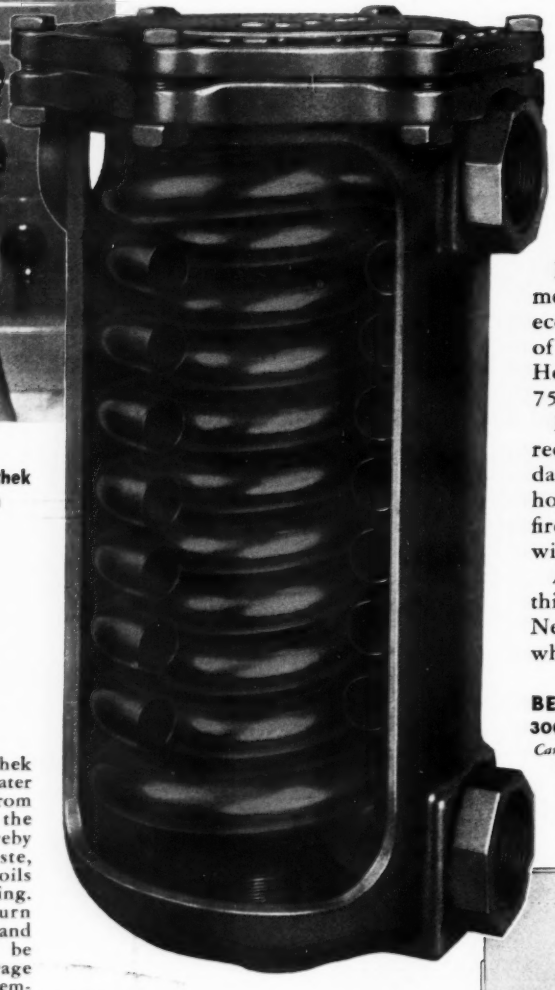
DELCO-FRIGIDAIRE

The Air Conditioning Division of General Motors

AUTOMATIC HEATING, COOLING AND CONDITIONING OF AIR

PROFIT TIP FOR APRIL

...SELL DOMESTIC HOT WATER AT 50 TO 75% OFF!



We mean just that . . . for here's the Heater that gives the home owner all the hot water he can use . . . at a tremendous discount!

And April's the month to sell it . . . because the B & G Indirect Water Heater furnishes hot water *in summer* as well as winter.

Every radiator-heated home or apartment is a push-over for one of these economy heaters. You can show plenty of evidence that with a B & G Indirect Heater, hot water cost is cut as much as 75% under that of other heating methods.

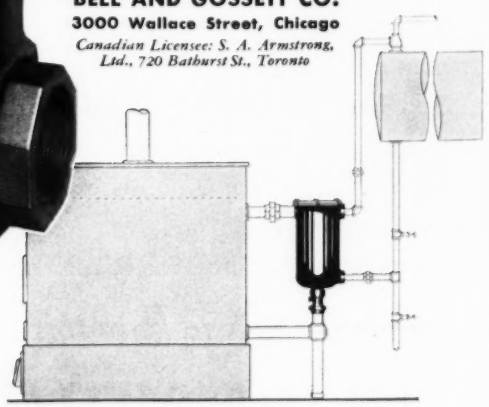
In summer, automatically fired jobs require only a few operating periods daily to keep boiler water sufficiently hot to heat the domestic water. On hand-fired jobs, rubbish plus just a little fuel will do the trick.

As for efficiency and dependability, this heater is a Bell and Gossett Product. Need we say more? Write for the facts which will help you sell.

BELL AND GOSSETT CO.
3000 Wallace Street, Chicago
Canadian Licensee: S. A. Armstrong, Ltd., 720 Bathurst St., Toronto

Sell a B & G Thermochek at the same time

The B & G Thermochek automatically keeps water in the storage tank from overheating during the heating season . . . thereby preventing fuel waste, liming of the heater coils and service water piping. Installed in the return line between heater and boiler, it can easily be adjusted to keep storage tank water at any temperature from 120° to the full capacity of the heater.



B&G INDIRECT WATER HEATERS

A COMPLETE LINE OF SUBMERGED WATER HEATERS . . . TANKLESS WATER HEATERS . . . TRIPLE DUTY SYSTEMS . . . FLO CONTROLS . . . TANK-IN-BASEMENT SYSTEMS . . . RELIEF AND REDUCING VALVES . . . COMPRESSION TANKS . . . MONOFLO AND ORIFLO FITTINGS

CHICAGO FAUCET NEWS

Issued Monthly by The Chicago Faucet Co., 2700-22 N. Crawford Ave., Chicago, Ill. Vol. 5, No. 6

All parts of Chicago Faucets subject to wear are incorporated in a standardized, removable, interchangeable operating unit and are as easily renewable as an electric light bulb.

STANDARDIZED REMOVABLE OPERATING UNIT

Removed as easily as an electric light bulb. One unit fits all Chicago Faucets. Seat and washer both replaceable. All parts that move in water are Monel Metal. No wear on main body casting—hence everlasting.

Recommend *for* New Buildings

The extensive use of Chicago Faucets as replacements is highly significant. It means that many property owners regret not having put in Chicago Faucets in the first place. Often it means, also, that the plumber who installed the first faucets is "out."

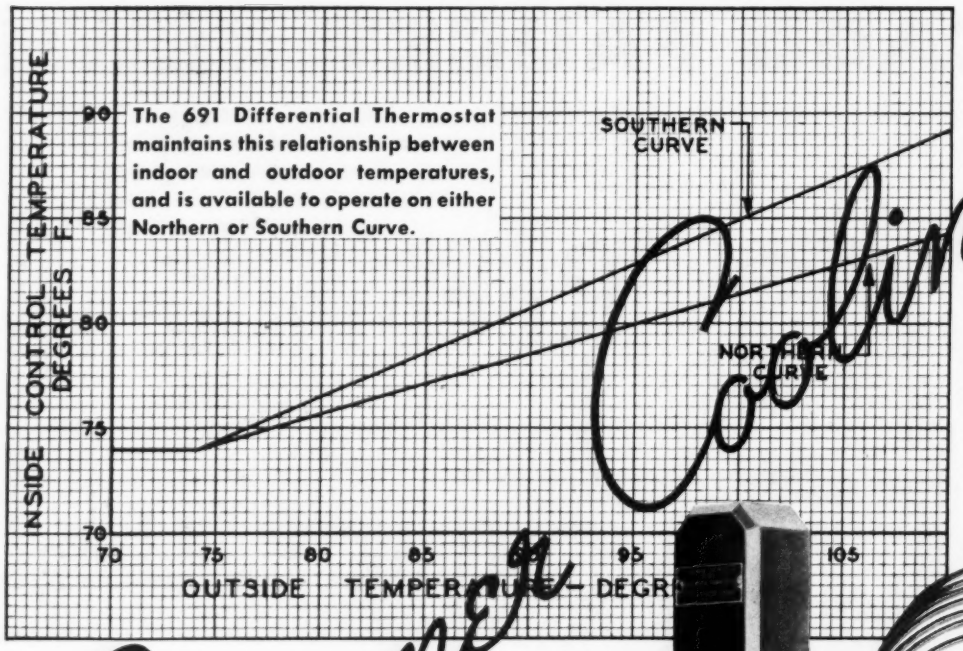
It is good business for plumbers to recommend Chicago Faucets on every new building, and urge their adoption on merit. Their many distinctive features, one of which is shown at the left, make them impressive to demonstrate. Owners will appreciate the longer, better, more economical service that Chicago Faucets make certain. Give every builder the opportunity to have Chicago Faucets **from the start.**

PERMANENT PROFITS AND PLEASED CUSTOMERS

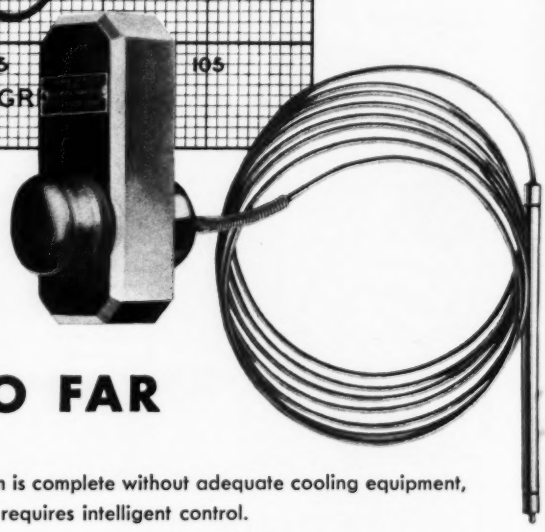
Chicago Faucet installations are profitable installations. No call-backs, no trouble shooting, no excuse making, no allowances. The profit you figure for the job becomes actually yours—to keep. And you strengthen your relations with the customer; for Chicago Faucets give the kind of service that satisfies. They encourage continued patronage.

CHICAGO FAUCETS

Last as Long as the Building



Summer Cooling CAN BE CARRIED TOO FAR



NO hot weather air conditioning system is complete without adequate cooling equipment, but the equipment is not enough. It requires intelligent control.

When the temperature on the street is 80°, a room temperature of 75° is comfortable. But when it is 90° outside and you enter a room held at 75°, the sudden shock leaves you cold and very uncomfortable. Over-cooling has been the cause of summer colds and perhaps other complaints.

There is a definite relationship between comfortable indoor and outdoor temperatures during the hot weather. Your air conditioning systems should maintain that relationship if they are to provide comfort and operate economically.

You can be sure of this when you assign that job to the "Genuine Detroit" Differential Thermostat No. 691. This instrument automatically holds indoor temperatures in accordance with the A.S.H.V.E. comfort curve (above)—automatically maintains just the proper difference between room and street temperatures. And it is an inexpensive instrument, easily installed.

The No. 691 is one of a complete line of air conditioning controls. • Write for Bulletin 74.

DETROIT LUBRICATOR COMPANY

5900 TRUMBULL AVENUE • DETROIT, MICHIGAN, U. S. A.

NEW YORK, N. Y.—40 West 40th St.
CHICAGO, ILL.—816 S. Michigan Ave.
Canadian Representative — Railway and Engineering Specialties Ltd., Montreal, Toronto, Winnipeg

EFFICIENCY PLUS!

COPPER PIPE

When the plumber or steamfitter makes a joint with a STREAMLINE Fitting and Copper Pipe, there is no doubt in his mind that it is perfectly tight—he doesn't have to wonder about it—he knows that it is absolutely leak and vibration-proof. He knows from experience that it is EFFICIENCY PLUS for the job in hand.

Consider STREAMLINE Copper Pipe and Solder Fittings for your next piping job. Remember there is nothing so efficient for water, steam or vapor systems as Copper Pipe—and Copper Pipe connected with the smoothly recessed uniform water-way of the STREAMLINE Fitting.

In addition to its non-rusting, non-clogging qualities and its constantly uniform conducting area, Copper Pipe actually delivers the heating element to the radiators quicker and with less heat loss than its corresponding size in other pipe. Radiators gain their maximum efficiency in keeping the building comfortably heated.

Of the several complaints the building owner may have, one of his "pet peeves" is that certain rooms or apartments in the building cannot be evenly and comfortably heated. This state of affairs is mostly traceable to loss of heat through internal corrosion and flow restriction. An installation of STREAMLINE Copper Pipe and Solder Fittings eliminates the lag in heating systems.

Remember too, the STREAMLINE Fitting is a cast bronze fitting—rigid and strong. The pipe openings are machined to accurate capillary fit for the pipe—and more than that they stay perfectly round and retain their proper tolerance even when subjected to the intense heat required when the higher melting point solders are used. In short, they make a more positive, workmanlike job, more satisfactory for you to use, and eminently more satisfactory for the finished installation.

STREAMLINE Copper Pipe is not commercial copper pipe. It is a greatly improved product of uniform diameter and consistently close tolerance.

STREAMLINE Solder Fittings are manufactured in sizes from ¼" to 12" inclusive, and in a complete range of reductions in tees and elbows. You connect directly to the smaller or larger pipe lines without the use of adapters with their additional expense both for material and labor. A BETTER JOB—A LESS EXPENSIVE JOB—AND A MORE WORKMANLIKE JOB.

Use STREAMLINE Copper Pipe, connect it with STREAMLINE Fittings—ALWAYS.

Manufactured in Canada Under License by
CANADA WIRE & CABLE CO. LTD., TORONTO, CANADA

STREAMLINE

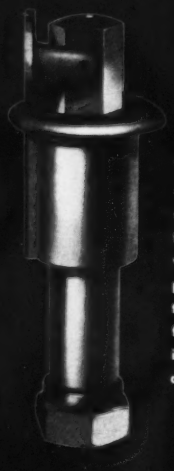
TRADE MARK REG. U. S. PAT. OFFICE

COPPER PIPE AND FITTINGS

PLUMBING HEATING

STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN

***and* AIR CONDITIONING**



The ACE Spray Head is one of three pop-up types manufactured by NIBCO, whose complete line provides heads, fittings and controls for every kind of installation, large and small.

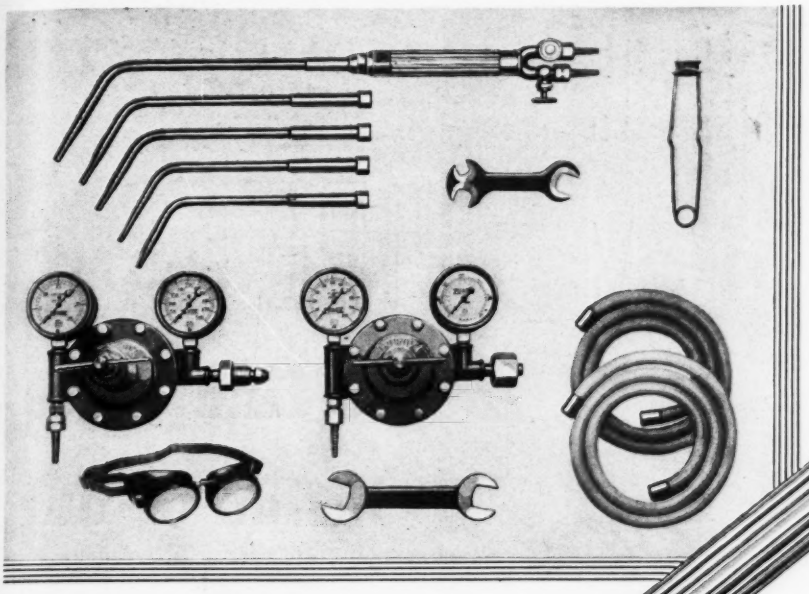
The JACK Spray Head is a less expensive type, non pop-up, for use where climatic and other conditions permit. NIBCO provides full flexibility of design to meet any requirement.

You can make extra profits from LAWN IRRIGATION

• It's just as easy to install plumbing in the *yard* as it is in the *house*—and it's just as profitable for the plumber who gets the contract. Even more important, NIBCO Lawn Irrigation is something you can *sell*. Houses where you installed plumbing in past years also have lawns—you can therefore turn your contacts and good will into increased business for yourself, this very year.

Every installation is an attention-compelling advertisement for further sales. NIBCO will be glad to help you get started in this profitable *extra* business. Write for details—today.

NORTHERN INDIANA BRASS COMPANY
491 PLUM STREET NIBCO ELKHART, INDIANA



The Purox No. 35 Torch is the dominant feature of this outfit—the Purox No. 4012 Welding Outfit. This Purox outfit is adaptable to a complete welding range and appeals to the user with a wide variety of work. Complete as illustrated - - - $82.00

PUROX NO. 35 WELDING TORCH

can help you do better work profitably

The smooth, efficient performance of the Purox No. 35 Torch can help you make your best welds—and make them economically. Because of its ability to handle competently all jobs—big or little—one purchase is all you need make when you buy the Purox No. 35 Torch.

An individual mixer in each head extends each head's welding range and assures the proper mixture of gases for every job. This saves welding time otherwise lost in changing heads, and further reduces apparatus investment. The 9 heads of the Purox No. 35 Torch cover the complete range of work normally requiring 15 heads.

Your Purox Jobber will gladly demonstrate these distinctive Purox features and other advantages obtainable only in the Purox No. 35 Torch. Complete with 5 heads, hose connections and wrench - - - $30.00

PUROX

WELDING AND CUTTING APPARATUS AND SUPPLIES

PRODUCT OF A UNIT OF UCC UNION CARBIDE AND CARBON CORPORATION

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

New York and Principal Cities

In Canada: Dominion Oxygen Co., Ltd., Toronto

if it's

BETHLEHEM PIPE **just try to find scale, inside or out!**

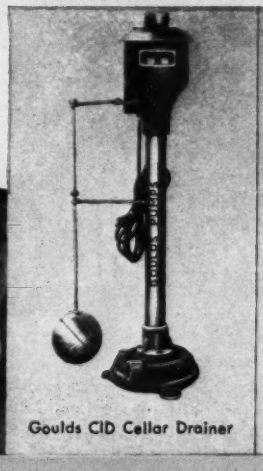
It's difficult to tell just how clean a pipe is inside. Only service will tell if scale was left in, and then it's too late to avoid trouble. One way of being sure there's no scale is to use Bethlehem Pipe.

During the making of it we use two separate operations which remove virtually every flake of scale, leaving Bethlehem Pipe clean, inside and out.

BETHLEHEM STEEL

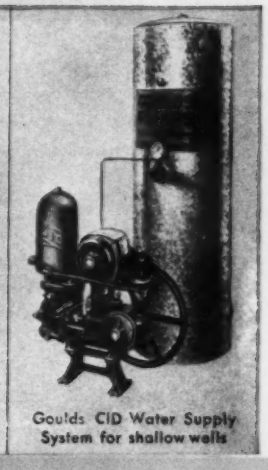
BETHLEHEM STEEL COMPANY

"YOU CAN BUILD YOURSELF A PAYING PUMP BUSINESS IF YOU TIE IN WITH . . ."



Goulds CID Cellar Drainer

Goulds CID Water Supply System for deep wells



Goulds CID Water Supply System for shallow wells

GOULDS CID Water Systems and Cellar Drainers

You know from experience that spring clean up days are modernization days—profitable days. Spring rains and thaws bring flooded cellars that endanger health and property. Goulds CID Cellar Drainers are easy to sell.

For customers who will modernize their buildings with running water, sell Goulds CID pumps for shallow and deep well systems.

Your customers will need quantities of pipe, fixtures and appliances for bathroom, kitchen and laundry—drinking fountains for live stock—sprinkler systems for irrigation.

When you carry Goulds CID Pumps, you have a line of fast moving merchandise that has more exclusive features than the ordinary, more merchandising support that builds profits for you, and the backing of a policy—strictly adhered to at all times—that favors and protects the legitimate dealer and distributor.

Cash in on Goulds CID Water Systems and Cellar Drainers. Order your stocks today. If your regular jobber does not handle the Goulds line, write for name of nearest Goulds distributor.

GOULDS PUMPS, INC., 200 FALL STREET, SENECA FALLS, N. Y.

Here's Why!

Gould's "CID" Water Systems and Cellar Drainers are:

1. Nationally known and accepted as quality products. Once sold they stay sold. No profit-eating service calls.
2. Part of a complete line of pumping units for all services. Every requirement of your customers can be filled with just the right pump for his job.
3. Priced right for the market with ample discounts for the distributor and dealer.
4. Distributed through a plan that recognizes, protects and supports the distributor and dealer and repays them for their sales effort.
5. Continuously and actively promoted through national advertising, direct mail, dealer helps and displays.

GOULDS

LEADERS SINCE 1848

CID WATER SYSTEMS

RUNNING WATER

7008 A

FOR MORE CUSTOMERS • MORE PROFITS •
& MORE SATISFACTION . . .

SELL CLEAN WA

Patent Nos. 2,025,973, 2,005,969 and 2,002,470

WITH ARCO WROUGHT COPPER FITTING & PIPE

- *Provides Copper-to-Copper Connections*
- *Joints easily sweated—need no tinning*
- *Rustproof, corrosion-resisting*
- *Makes your job pure* wrought *copper all the way*
- *Self-insulating—cuts down heat loss on heating and hot water lines*
- *Line of fittings complete: ¼" to 4" inclusive*
- *Insure lifetime plumbing*
- *Stocked by Arco Warehouses and Wholesalers*

WITH ARCOLOY RANGE BOILER AND TANK

- *Rustproof—guaranteed for 20 years under normal water conditions*
- *For all hot water storage systems*
- *The Beauty of Copper—the Strength of Steel*
- *Sold only by Plumbing & Heating Supply Wholesalers*
- *Stocked by all Arco Warehouses and Wholesalers*
- *7 sizes—Honestly sized to full rated gallonage*
- *2 weights—Standard and Extra Heavy*
- *Adjustable stand for Range Boilers finished to match*

Announcing

A NEW STANDARD WEIGHT
200 LB. PRESSURE TESTED

ARCOLOY

RANGE BOILER & TANK

85 LB. SAFE WORKING PRESSURE

Now you have genuine ARCOLOY Tanks in two quick-selling, popular weights: Standard, 200 lb. pressure tested; and Extra Heavy, 250 lb. pressure tested. Both available in 7 sizes from 25 to 100 gallons rated capacity. And remember—rated capacity is *actual* capacity in ARCOLOY Range Boilers and Tanks.

ARCOLOY Range Boiler Stands (for 25, 30 and 40 gal. boilers) are finished to match. Adjustable legs increase height from floor up to 2 inches.

R FROM CURB TO FAUCET

DURING

ARCOLOY MONTHS

The BEST campaign ever staged to build up Plumber-Profits on Range Boilers and Tanks

EVERY year you get those little jobs of plugging old, rust-eaten range boilers and storage tanks . . . of replacing them with other rustable, short-lived tanks. Sure, there's some profit in them. But there's *more* profit—in material and labor—in *selling* a clean hot water system that won't need repairing or replacing every few years. This year, make your selling slogan *"Clean Water from Curb to Faucet"* with Arcoloy and Arco Copper.

Arcoloy Range Boilers and Tanks sell on sight. They have the gleaming color, the lustrous appearance of pure copper... yet they have the strength of mild steel.

They *can't* rust—because Arcoloy is 95% pure copper. Tell your customers they're guaranteed for 20 years under normal water conditions. Explain their Arcoloy construction throughout—even to the spuds and seams welded with Arcoloy rod—and what it means in longer life, better service. And show the American Radiator name—they'll know that stands for good workmanship, dependability and honest value.

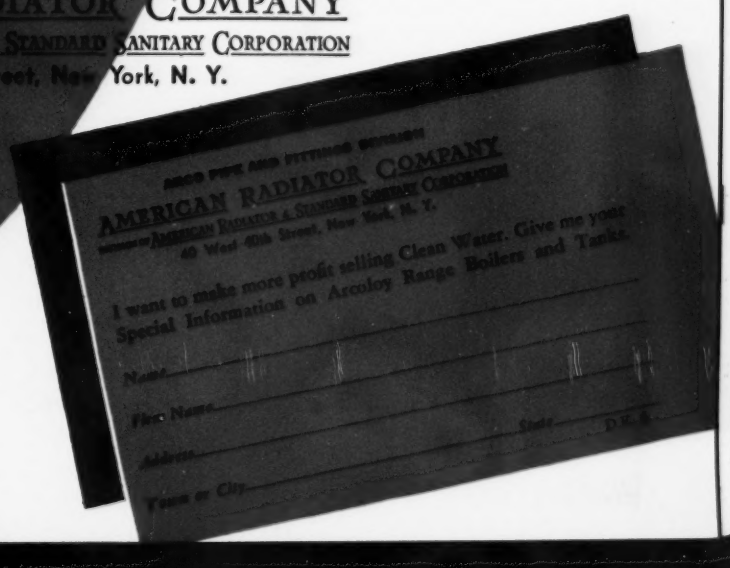
You know the advantages of working with Arco Full Flow *Wrought Copper* Fittings and Pipe. How sweating Copper-to-Copper makes a better, cleaner-water job . . . how it saves time, increases profit.

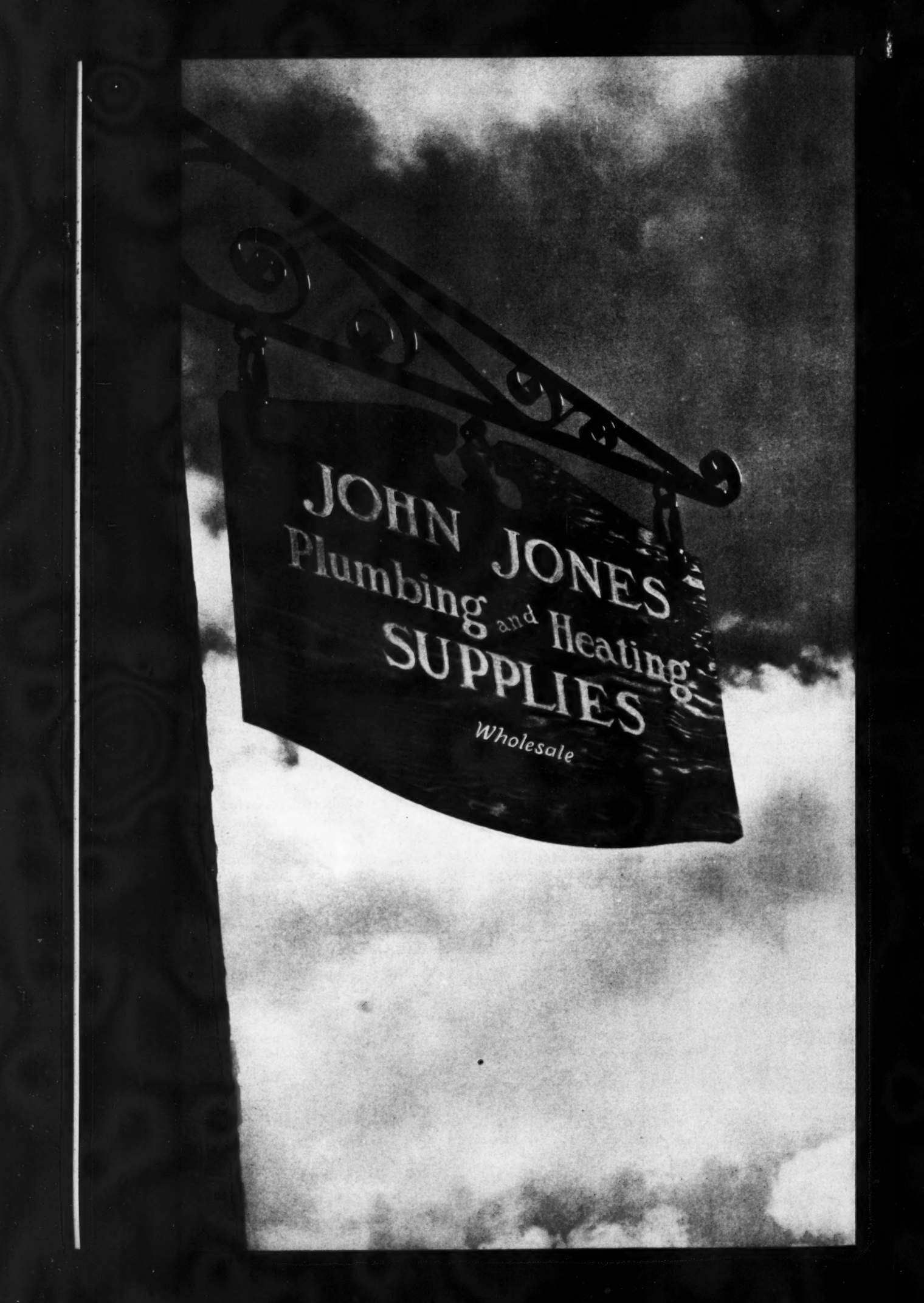
It will pay you to display these two Arco "Clean Water" products. There will be extra profits in it for you—extra selling opportunities, too. Ask your Plumbing Supplies Jobber—he stocks Arcoloy Tanks. Or mail the coupon today for special information

ARCO PIPE AND FITTINGS DIVISION
AMERICAN RADIATOR COMPANY
DIVISION OF AMERICAN RADIATOR & STANDARD SANITARY CORPORATION
40 West 40th Street, New York, N. Y.

SPLAY ARCOLOY
NGE BOILERS
D TANKS

display in your win-
attention . . . brings
. . . builds business . . .
stock on hand for im-
stallation.


AMERICAN RADIATOR COMPANY
I want to make more profit selling Clean Water. Give me your Special Information on Arcoloy Range Boilers and Tanks.
Name
Firm Name
Address
Town or City
State


JOHN JONES
Plumbing and Heating
SUPPLIES
Wholesale

SYMBOL OF RESPONSIBILITY

In every community there hangs the sign of "Jobber Jones" . . . symbol of all long-established, responsible plumbing and heating suppliers.

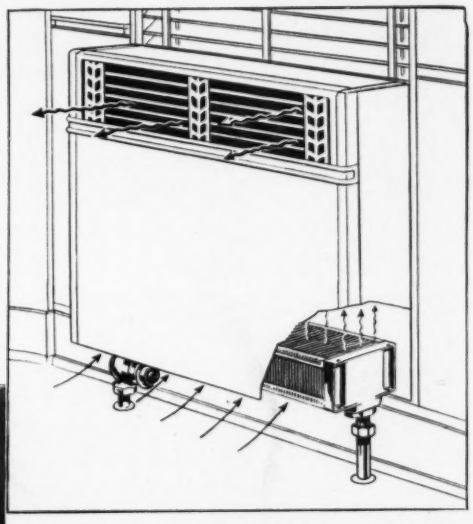
It is the "Jobber Jones" in your vicinity who serves you best. He not only sells dependable merchandise, but also has accurate information available to aid you in your everyday problems. Furthermore, it is he who will do everything possible in emergencies to "see you through."

Shopping elsewhere for your supplies is costly in the long run as all far-sighted contractors know. They have found that it is "good business" to deal with "Jobber Jones" exclusively.

Kuhns Brothers Co.
Malleable Iron Fittings Co.

only MODINE
MAKES CONVECTORS specifically designed for HOT WATER SYSTEMS

and having the high ratio of prime surface to secondary surface of 1 to 4



The cooler, heavier air near the floor comes in contact with the copper heating unit . . . is heated, and rises . . . then circulates out into room through the grille.

Truly individual beauty of enclosure and grille design keeps pace with mechanical excellence of the heating unit. Four available enclosure types: Wall Cabinet (shown), Floor Cabinet, Recessed (Sheet Metal Front, in-the-wall type), Concealed (Plaster Front, in-the-wall type).

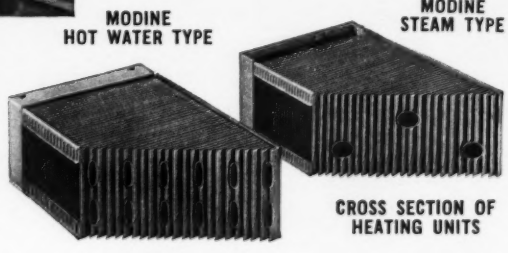
FOR RESIDENTIAL, COMMERCIAL AND INSTITUTIONAL INSTALLATIONS

A pioneer in the manufacture of copper convectors—only Modine makes a copper convector *specifically* designed for hot water heating systems.

It is the first hot water type convector with a performance that, in comparison with steam, is subject to no penalty of capacity other than that arising from the direct ratio of the temperature of the two heating media.

By installing Modine Convectors (Hot Water Type) in a hot water system, no additional heating capacity over and above that regularly required for ordinary direct radiators need be added.

Hot water, as a heating medium, is notably slow to respond to demands for heat, and notably prone to over-run those demands. Copper convectors are the most quickly responsive of all forms of radiators or convectors. "Blending" these two characteristics makes for a happy result. Ordinary copper convectors lose this advantage because their design requires more convector capacity to get the same results. But with Modines, this is not true. Modine design takes full advantage of copper's faster heating. That's why Modines are so superior to either cast iron or ordinary copper convectors in hot water systems. *Write for Catalog 136.*



FOUR TIMES AS MUCH TUBE SURFACE IN MODINE HOT WATER HEATING UNIT

In the Modine Hot Water Heating Unit the oval, seamless copper tubes are brazed into headers of heavy copper. A positive, permanent bond metallically joins to the tubes the vertical rectangular copper fins.

MODINE MANUFACTURING COMPANY 1722 Racine St. **RACINE, WIS.**

HEATING, COOLING AND AIR CONDITIONING EQUIPMENT FOR DOMESTIC, COMMERCIAL AND INDUSTRIAL APPLICATION

BRASS
"Bridgeport"
CO.

ESTABLISHED 1865

REPRESENTING a complete line of "Plumrite" Brass and Copper Pipe, Copper Water Tube and Fittings and Plumbers' Brass Goods, conforming to the highest standards of plumbing and heating practice, to satisfy the most exacting demands that the contractor is called upon to meet.

This trademark is at once a guarantee of quality and a source of prestige, reflecting the integrity of those who sell the products on which it appears • Sold exclusively through jobbers of the highest standing with whom we maintain a strict policy of cooperation, this trademark now enjoys nation-wide recognition • If you want a source of supply large enough to meet all your demands, yet small enough to give you personal, intimate attention, make Bridgeport your company and Bridgeport Products your products.

Bridgeport Brass Company • Bridgeport, Connecticut

BRIDGEPORT BRASS

COMPARE

THE EXTRA VALUE OF
BRIDGEPORT'S MODERN PLUMBERS' BRASS GOODS

CHANGES are continually being made in all plumbing lines. Modernization is the trend of the day. Bridgeport, however, has not been content merely to modernize. We have incorporated new and unique advantages in our line. It is now not only more complete, but each item offers features of extra value—features that make it easier for you to sell...more desirable than ever from your customers' point of view. Compare this item from the Bridgeport line with any Waste and Overflow you have ever seen. Note that:

1. It is *double plated*, first with nickel, then with chromium. That means longer service.

2. Its patented head is adjustable to any tub slant. That means flexibility in installation.

3. The Bridgeport style nut has a more substantial wrench surface, while the domed top makes it especially sanitary.

4. The bead chain is permanently attached to the strainer. That means customer satisfaction.

5. The length is extra generous—to allow for ample adjustment.

6. It is *guaranteed* against defects.

7. Individually wrapped and packed in a strong carton, clearly labeled for quick, easy reading.

ANOTHER EXAMPLE of extra quality is the Bridgeport patented Traxrod. It is extra strong—made of No. 20 gauge brass. Double plated. Hooks run on a track in an open channel with greater freedom...cannot mar the finish or get loose. Traxrod, curtain, hooks and hold back complete in new strong carton.

These features are typical of the Bridgeport line. They are crystal clear indications of *quality*. It is a modern line. It is a complete line. We invite you to compare it, item by item, with other lines. You will find the same extra quality built into every single Bridgeport article. Backed by more than seventy years of experience, we are equipped with the personnel, the knowledge, and the technical skill to give you prestige-building products and full cooperation in helping you merchandise them successfully. Why not turn the definite selling advantages of Bridgeport's line to your own profit?

"Bridgeport"

BRIDGEPORT BRASS

BRIDGEPORT BRASS COMPANY, BRIDGEPORT, CONN. • ESTABLISHED 1865

Oxweld C-31 Cutting Blowpipe—For
Use With Low-Pressure Acetylene
Oxweld C-32 Cutting Blowpipe—For
Use With Medium-Pressure Acetylene

Two New Oxy-Acetylene Cutting Blowpipes *by Oxweld*

Features

CUTTING VALVE—Both blowpipes have the exclusive Oxweld cutting valve in which a double-flange rubber bushing, mounted on the valve stem, takes the place of all packing and stuffing-box nuts.

BALL NEEDLE VALVE — A hardened, highly polished, stainless steel ball needle valve frees itself of all particles and assures a gas-tight seat at all times.

FLASHBACK RESISTANCE — An entirely new design for the injector in the C-31 and for the mixer in C-32 contributes to the practically perfect control of the gases in combustion.

NOZZLES — All nozzles have the Oxweld Patented Seat Protector, which prevents marring of their seats, and are chromium plated for longer life.

HANDLE—The handle is of extruded brass in an exclusive ribbed design which affords a firm, easy grip and adds necessary rigidity.

Advanced design, simplicity and rugged construction assure efficient, trouble-free service from these new Oxweld blowpipes. These blowpipes will cut steel, wrought iron and cast iron and have a cutting range up to a 12-inch thickness of steel. Each blowpipe embodies features which control, more than ever, the combustion of mixed gases and insure satisfactory performance even under unfavorable operating conditions.

The C-31 was designed especially for use with low-pressure acetylene, but operates equally well under medium pressure without any change in nozzle or adjustment. The C-32 was designed exclusively for medium-pressure operation. In both blowpipes, the gases are mixed immediately behind the head.

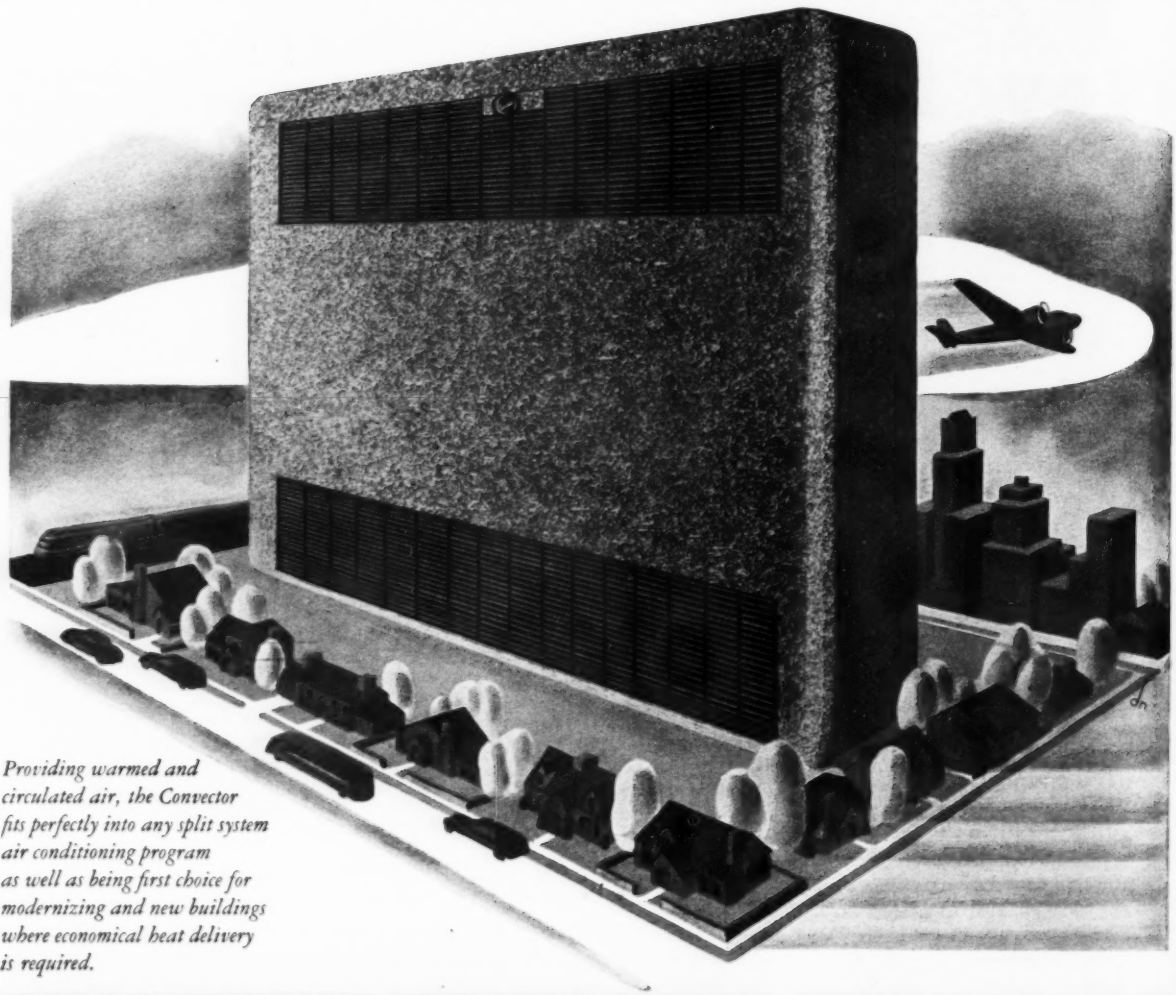
Try one or both of these blowpipes in your own shop. Write or phone the Linde office near you today for a demonstration. The Linde Air Products Company, Unit of Union Carbide and Carbon Corporation, New York and principal cities.

Everything for Oxy-Acetylene Welding and Cutting

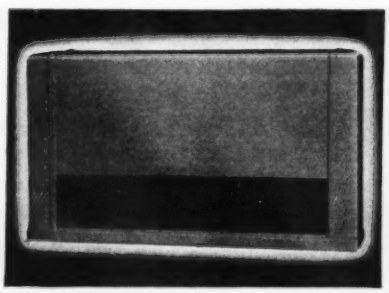
LINDE OXYGEN • PREST-O-LITE ACETYLENE • OXWELD APPARATUS AND SUPPLIES FROM UCC LINDE UNION CARBIDE

TRANE...

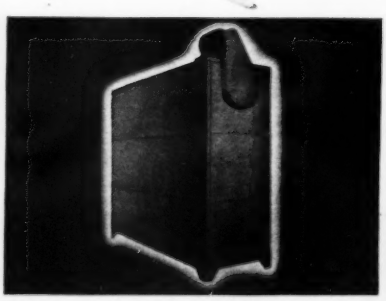
Pioneer of Five Phase



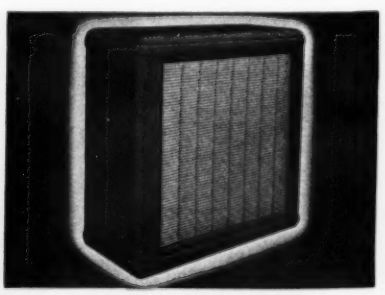
Providing warmed and circulated air, the Convector fits perfectly into any split system air conditioning program as well as being first choice for modernizing and new buildings where economical heat delivery is required.



☆ **HUMIDIFYING.** Illustrated above is the cabinet Humidifier used frequently in split air conditioning systems for residences and office buildings.



☆ **DEHUMIDIFYING.** Trane floor type self-contained air conditioner of large capacity used in many establishments to maintain correct humidity as well as for cooling in summer and supplying automatically controlled healthful heat in winter.



☆ **HEATING.** Factory heating took long strides forward in efficiency and economy when the famous Trane heating coil principle was incorporated in Unit Heaters.

Air Conditioning, Announces New Beauty in Convectors for 1937.

52,000 installations ago—Trane announced their first convector (in 1926). Each successive year has seen new improvements in economy and design that, accumulatively, are responsible for the Trane Convector being considered *the Standard in the field*, more units having been sold than any other.

NEW OPPORTUNITIES FOR ARCHITECTS AND ENGINEERS

1. A new beauty resulting from softened contours that permits a new freedom in harmonious decoration of any period.
2. In concealed form—an indispensable ally of the modern compact architectural design.
3. "Modern" heat delivery of natural air circulation that occupants recognize as heat at its most comfortable, healthful best.
4. Quick response heat—subject to instant control.
5. Bring greater cleanliness to wall surface and furnishings—easier to cleanse.
6. Increased economy in installation and operation.
7. New accessibility when interior cleaning or adjustment is required through the new one-piece top and front stamping.

HERE ARE THE FIVE VITAL PHASES OF AIR CONDITIONING that make *Trane Weather Magic*

1. *Heating* 2. *Cooling*
3. *Ventilating* 4. *Humidifying*
5. *Dehumidifying*

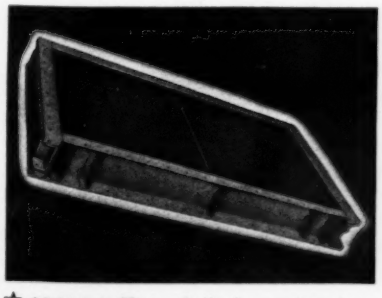
Major advancements in heating are not the only Trane contributions to *weather magic*. There have followed many achievements in the five related fields, which have made the Trane Company one of the outstanding factors in the field of air conditioning either for comfort or industry.

A competent field organization of technical advisers in 64 principal cities of the United States trained in each of the five phases of air conditioning and working constantly with the principal engineering consultants in the profession is at the disposal of any architect, engineer or contractor.

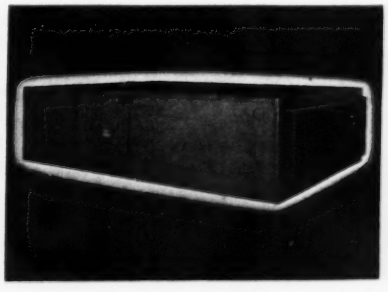
TRANE ☆ ☆ ☆ ☆ ☆

THE TRANE COMPANY — LA CROSSE, WISCONSIN

Trane Company of Canada, Ltd., Toronto



☆ **COOLING.** Trane Coils for cooling have found hundreds of different applications among leading architects, contractors, and engineers. Complete range of sizes and types for all applications.



☆ **VENTILATING.** The Air-O-Vent provides a means of introducing fresh air for auditoriums and gymnasiums.

THE R. M. FLAGG CO.
BANGOR, MAINE
March 11, 1937
Gar Wood Industries, Inc.
7924 Dispelle Street
Detroit, Mich.
Gentlemen:
In the winter of 1931-32 I took on the Gar Wood dealership,
after searching the market for equipment that was reliable, econom-
ical and the least likely an after installation burden. Results
have proven the wisdom of their selection. Each year the results
have grown better. Sales here come easier, and now that we have
a great many installations obtained, so far as service and economy
to sell because the results obtained, so far as service and economy
are concerned, are unbelievable.
At the time I took on Gar Wood, I had the distribution of
four different oil burner outfits. Today, we are 100% Gar Wood
so far as oil burning equipment is concerned, and we are proud
of it. We increased our sale of this equipment last year over
1935 approximately 90%. We consider Gar Wood
never because of the fact that we find a ready sale for Gar Wood
Boiler-Burner units and Tempered-Aire units and also the
solid fuel burners because we are sure of our profit. Gar Wood
equipment does not require the service that other equipment has.
In the past the service has been practically nil. Have made a
specialty of this type of equipment, owing to the heating trend,
since 1920.
I wish to say that my first installation of an oil burner
dates back to 1917. Have handled a great many sizes. I am now
100% Gar Wood and expect to increase my business 300% in 1937.
Yours very truly,
THE R. M. FLAGG COMPANY
PRESIDENT
RMF/LA
GAR WOOD BOILER BURNER UNITS
HOT AIR FURNACES
FUEL OILS

MR. FLAGG of BANGOR says:

n high[illegible] recommend it
we find a ready sale
d-Aire units and also
r-Burner units and Tempered
we are sure of our profit
ment does not require the s

WITH the FAMOUS Gar Wood

HEATING and AIR CONDITIONING UNITS

● **What Mr. Flagg enjoys in Bangor can be enjoyed in your town, too! For the air conditioning trend is decidedly toward Gar Wood. It is what builders, architects, owners want. Because it is 100 per cent direct-fired winter air conditioning it heats, humidifies, circulates and filters the air in every room of the house. It blower-cools in summer. To sell and install the Gar Wood takes very little more shop equipment than you need for ordinary oil burner installation and service. There is no "engineering" to do. It has all been done for you. The Gar Wood book of "Engineering Standards" gives you complete tables, all so simple that you only need to add and multiply to get the good results that Gar Wood dealers all over the country are getting. You can depend on the results, too! Years of laboratory testing and thousands of actual installations have taken the guesswork out of Gar Wood air conditioning. Write now for the Gar Wood Franchise details!**

Gar Wood AIRDUX
REG. U.S. PAT. OFF.

Standardized duct parts that simplify your work and assure perfect results. No tin smithing to do. Fabricated and sold out of Gar Wood Factory branches You erect them on the job with a few simple tools. Complex trunk lines are eliminated.

THE Gar Wood LINE IS COMPLETE

TEMPERED-AIRE
Gas and Oil Fired Complete Winter Air Conditioning System

SPLIT-SYSTEMS
for Radiant Heat and Air Conditioning

BOILER-BURNER UNITS
for Hot Water or Steam Radiation

COMMERCIAL HOT WATER HEATERS
for Buildings and Apartments

AIR CIRCULATORS
for Homes, Stores and Offices

HOUSEHOLD WATER HEATERS
both Storage and Coil Types

CONVERSION OIL BURNERS
for all types of home heating plants

GAR WOOD AIRDUX
Pre-built, simplified duct system

OBI

Air Conditioning Division
GAR WOOD INDUSTRIES, INC., DETROIT, MICHIGAN

MILL COULDN'T HANDLE ORDER
..SCULLY DELIVERED IN 23 HOURS!

One day early this year an Ohio manufacturer wired for prices and delivery on several hundred special sheets. His mill couldn't make the shipment required.

We telephoned prices at 1 o'clock that afternoon . . . promised shipment within 24 hours . . . got the order. We shipped by truck that same afternoon, and the customer (several hundred miles away) got his sheets at noon the following day!

This is an example of the kind of "Scully Service" we're giving at a time when such service is particularly important. With the mills flooded with orders, it's good to know that Scully's huge stocks are quickly available.

We have immense stocks of steel, steel products, copper and brass always on hand in eight warehouses conveniently located. Try us!

Phone, write or wire the warehouse nearest you. Send for our complete Stock List and Reference Book. It's free.

★

USS

SCULLY STEEL PRODUCTS CO.

Warehouses at

CHICAGO • BOSTON • PITTSBURGH • NEWARK, N. J. • ST. LOUIS
BALTIMORE • ST. PAUL • CLEVELAND

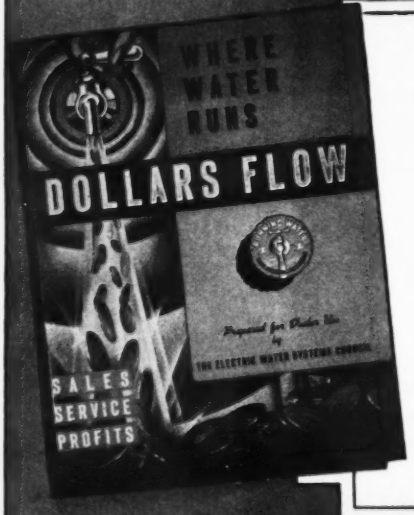
UNITED STATES STEEL

A TIMELY TIP

Join with MYERS

RUNNING WATER
YOUR FAMILY DESERVES IT

and Make the NATIONAL CAMPAIGN "To Sell Running Water to the Rural Market" - and To All Other Markets in Your Locality Successful and Profitable



Completeness of the Myers Line of Pumps and Water Systems Plus Quality Plus Dependability Plus Durability Plus Favorable Prices Plus National Advertising Plus Rural Electrification Plus Power Company Cooperation, and a waiting market in all localities provide unmatched leads for largely increased sales and profit on Myers Water Systems during the months ahead.

If you are not already familiar with the Myers Line and its many advantages, write or wire us for catalog and information.

Another "Timely Tip"

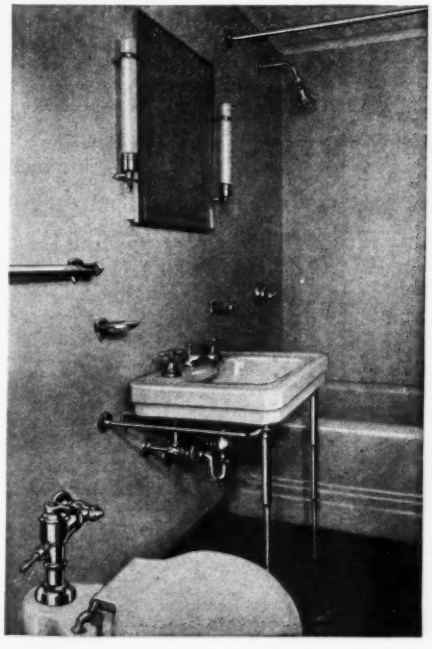
We still have a limited supply of the new educational, up-to-the-minute Book, "Where Water Runs, Dollars Flow" available for dealers who have not already received a copy. We will mail you one free upon request.

THE F.E. MYERS & BRO. COMPANY
ASHLAND, OHIO

These features combine beauty and comfort—make a job stay sold

PLUMBERS know that bathrooms must have more than eye appeal. The showers, the fixtures, the plumbing behind the walls—all these count even more, in keeping home owners satisfied and in protecting your reputation for workmanship.

Every Speakman fixture is a quality fixture. This quality is apparent in the design and in the superfine chromium finish. But you know that the real test of quality in plumbing fixtures is to be found in their internal design and construction. Here is where thought and workmanship build the features which mean trouble-free operation for your customers—and the satisfaction which safeguards your profits.



Don't let Speakman's reputation for quality scare off your customers. When you sell an installation of Speakman showers and fixtures, for new homes or old, you have sales features to justify your prices. Moreover, the Speakman line is now so complete you can please any taste and pocketbook.

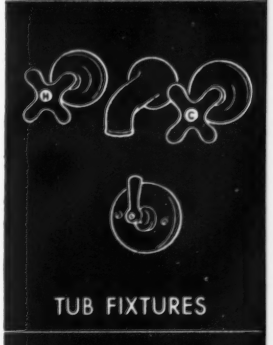
The illustrations show four Speakman sales leaders of wide acceptance. The Mixometer Shower with the Anystream self-cleaning head—enables every member of the family to get just the kind of shower desired; the Metaline Built-In Bath Fixture with hi-seat, by-pass pattern valves and renewable seats; the Metaline Lavatory Fixture with pop-up waste; the Si-Flo Flush Valve that silences the toilet.

Send for literature covering these bathroom leaders. It will help you make more sales—for one Speakman installation will invariably sell another. SPEAKMAN COMPANY, WILMINGTON, DEL.

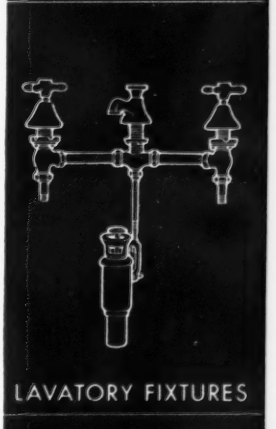
—Quality fixtures since 1869.

When you work with an architect, you will find that he is fully informed on Speakman Fixtures. Our consistent advertising is an important sales aid to you.

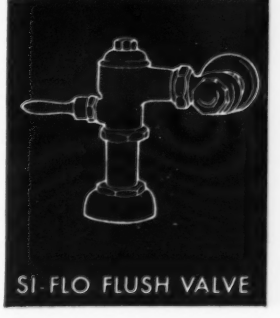
MIXOMETER SHOWER



TUB FIXTURES



LAVATORY FIXTURES



SI-FLO FLUSH VALVE

SPEAKMAN

SHOWERS AND FIXTURES

"We're an Improvement-Hungry Family, STEP RIGHT IN"

● Of course, they won't welcome you in just those words – but this spring, thousands of householders feel just that way. The "Mrs." is tired of kitchen drudgery – and is ready to buy a CranEfficient kitchen if you'll sell it to her. The bathroom is getting shabby – or maybe the family is planning better bathrooms for that new home of theirs. Down in the basement, there are rich fields for you to cultivate – Crane Laundry Tubs, Crane heating equipment. Upstairs, downstairs, in milady's chamber, profits wait for YOU when you sell CranEquipment.

Crane goes *all the way* in helping you sell. The Crane 7-Point Plan is the most efficient tool ever devised for bringing the profits home to your pocketbook. Use this plan RIGHT NOW when new building is in the air – when folks are ready to give you their business. Investigate this Crane 7-Point Plan today!

CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVENUE, CHICAGO, ILLINOIS

Branches and Sales Offices in One Hundred and Sixty Cities

VALVES, FITTINGS, FABRICATED PIPE, PUMPS, PLUMBING AND HEATING MATERIAL

Mr. Plumber

CRANEQUIP THEM THROUGHOUT FOR BIGGER PROFITS

● When you handle CranEquipment, *one sale leads to another*—a mighty valuable asset for you. Crane gives you the opportunity to CranEquip *every* part of the house. The Crane 7-Point Plan for '37 is your best tool in selling complete installations rather than single units. Here's an outline of the plan—ask your Crane representative about how it will work for you.

1 UNQUESTIONED QUALITY—An extensive line of products with quality predominant.

2 COMPLETE STOCKS—Conveniently located—backed by display rooms to help you sell.

3 ADVERTISING NATIONAL AND LOCAL—A continuous campaign reaching your prospects, designed to create a demand for your services.

4 PRICE AND MANAGEMENT SERVICE—The Crane accurate guide to correct pricing, backed by management helps.

5 PLANNING GUIDES—Removing sales obstacles and helping you sell the complete job.

6 FOLDERS AND DIRECT MAIL—A wide variety of folders, catalogs and direct mail pieces furnished to you.

7 DISPLAY MATERIAL—Posters, window displays, job signs, and display service.

THE CRANEQUIPT BATH—*Neuvogue* fixtures provide a sure appeal for any "improvement-hungry" family and a start on CranEquipping throughout.

POINT No. 4

in Crane's 7-Point Plan—the most complete catalog and pricing service in the industry

BATHROOM: TUBS: 24 styles; white and in 8 colors; porcelain (all-clay), and porcelain enameled on rigid cast iron; see Bath Section in your Crane Price Service Catalog. LAVATORIES: Over 100 styles; of marble, vitreous china and enameled cast iron; white, colored, variety of trim; new style cabinets, dressing tables, and fixtures; see the Lavatory Section of your Crane Price Service Catalog for details. WATER CLOSETS: Over 70 models; white and colored vitreous china; well, floor, automatic frostproof models; low and high tanks, siphon jets, reverse traps, washdown, blowout; bidets, flushing valves, etc. See Water Closet Section of your Crane Price Service Catalog for details.

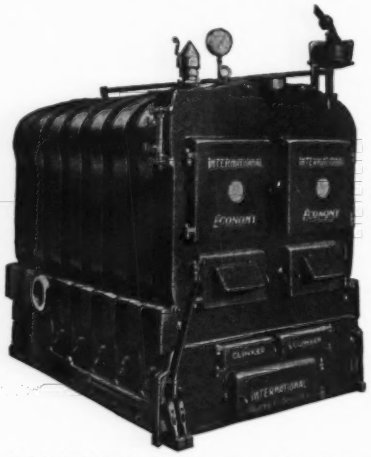
HEATING: Coal, coke, oil and gas fired boilers for steam or hot water; radiation; convectors; humidifiers; radiation shields, etc. See Heating Section of your Crane Price Service Catalog for details.

LAUNDRY: Tubs, sinks and tubs, vitreous china, porcelain (all-clay), porcelain enameled on rigid cast iron; single, double and triple compartments; frames, trimmings, etc. See Laundry Section of your Crane Price Service Catalog for details.

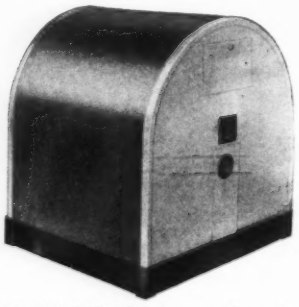
KITCHEN: Complete line of sinks from Sunnyday (most modern sink in America) to simplest enameled model; porcelain enameled and nickel alloys; cabinet, scullery, butler pantry models; sink and kitchen accessories. Plus a line of cabinet equipment enabling you to sell complete kitchens. See your Crane Price Service Catalog for details.

VALVES AND FITTINGS: Most complete line of valves and fittings in the world; brass, iron, steel and alloy; screwed, flanged and solder-joint; all sizes; quick shipments from nearby stocks. Conform to American Standards for dimensions and threading; accurate angle openings; accurately threaded; uniform denseness and thickness of metal. See your Crane Price Service Catalog for sizes, styles, and other details.

A GUARANTEE that *IS* a GUARANTEE!



ECONOMY Cast Iron Sectional and Smokeless Boilers



OIL-ECONOMY — a Cast Iron Boiler designed exclusively for oil

ECONOMY Cast Iron Insulated Jacketed Boilers

For the first time in heating history, the International Heater Company is offering a guarantee that will really protect the heating contractor and his customer for both repair parts and **labor** in replacing them. Under it, there is no question of responsibility or any shirking of responsibility on the part of the manufacturer in replacing boiler castings which do not stand up and give satisfactory service. *We guarantee to furnish, without charge to the owner, any boiler castings, except grate bars, which may become unusable within a period of five years from date of installation. We further agree to reimburse the owner for the cost of installation labor at the rates stated in our new five-year guarantee.*

First AGAIN!

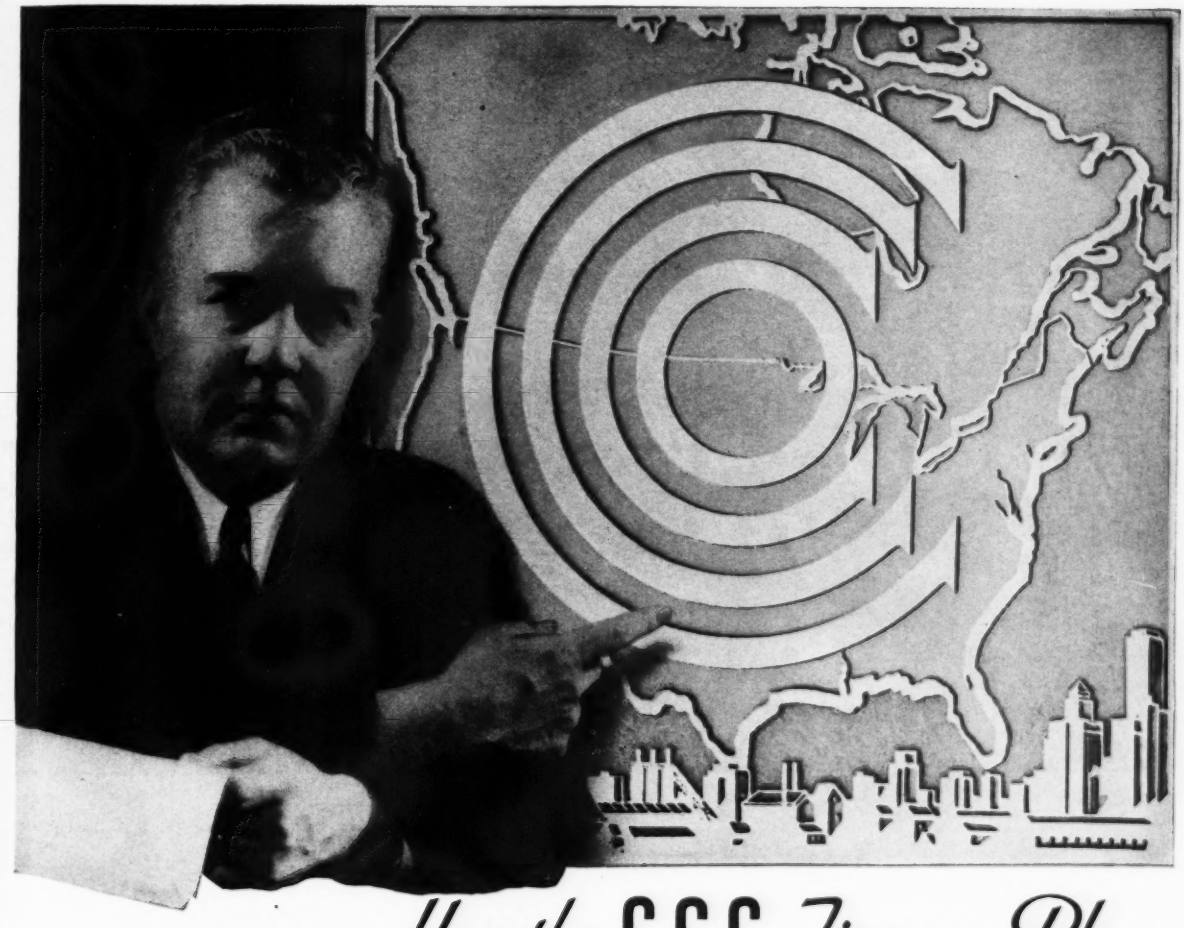
In addition to creating outstanding developments in the efficient design of boilers over a period of years, the International Heater Company was the first manufacturer to guarantee their ratings ten years ago. Now they are the first to definitely guarantee the boiler itself.

SPECIFY INTERNATIONAL BOILERS AND BE SURE OF GUARANTEED QUALITY AND RATINGS AND EFFICIENT PERFORMANCE

For complete information and also data on Air Conditioning, write to Dept. D-1

INTERNATIONAL HEATER COMPANY

UTICA, N.Y., U.S.A.



How the C.C.C. *Finance Plan*

HELPS HEATING EQUIPMENT DEALERS SELL PROFITABLY

COMMERCIAL CREDIT COMPANY financing has proved its value to thousands of successful merchants as an aid in closing sales. Its name is so well-known to American families, there is no hesitance in accepting CCC financing . . . no doubt about the fairness of the terms.

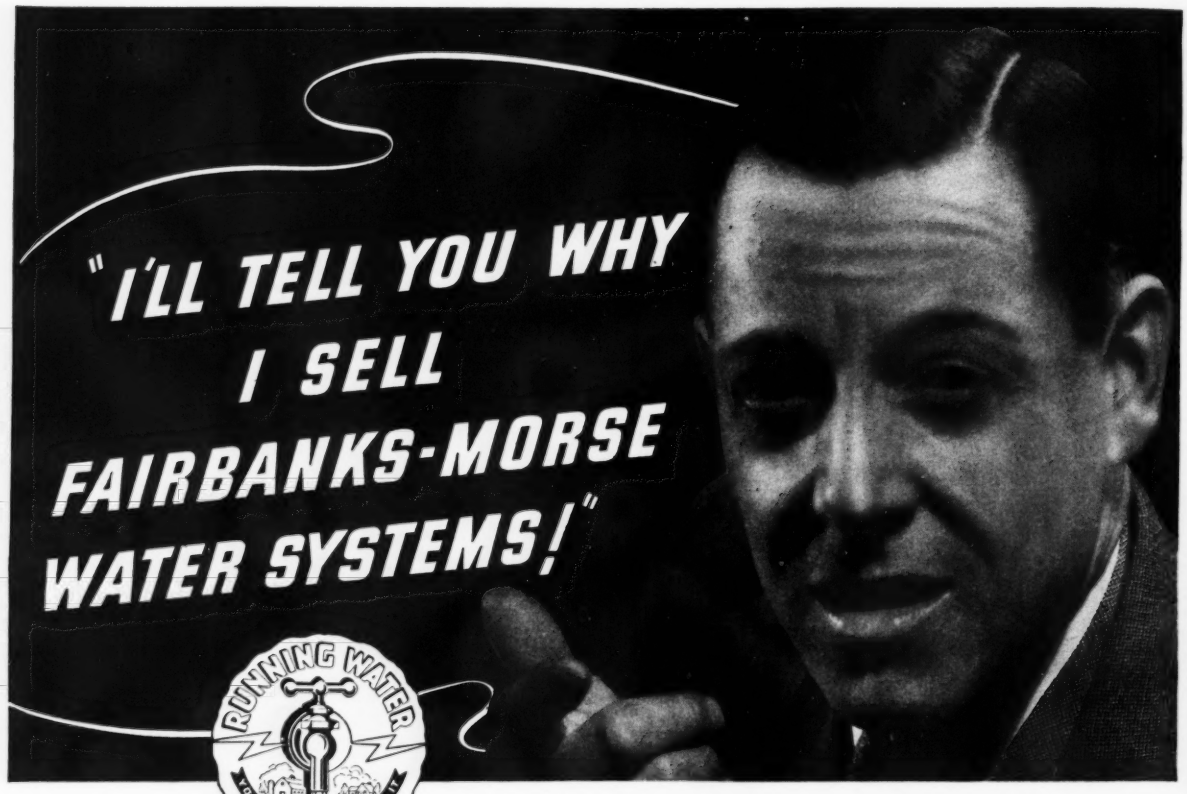
But your financial interest in time payment sales doesn't end with the signed order and the down payment. There has to be a final reckoning before your full profit is assured. Commercial Credit Company's twenty-five years experience in credit investigation and collection is a bulwark of strength for you. It weeds out the bad risks that mean trouble and loss from failure to complete payments. It assures you of the maximum of profit. Get the most out of the big year ahead of you with Commercial Credit Company service. Nation-wide operation through 179 offices in principal cities assures close cooperation, prompt remittance.

COMMERCIAL CREDIT COMPANY

COMMERCIAL BANKERS
CONSOLIDATED CAPITAL

HEADQUARTERS: BALTIMORE
AND SURPLUS $60,000,000

FINANCING SERVICE FOR MANUFACTURERS, DISTRIBUTORS AND DEALERS THROUGH 179 OFFICES IN THE UNITED STATES AND CANADA



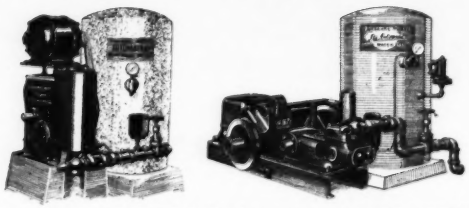
● "Before I went into this business, I looked over all the lines. I talked to men who would be my prospective customers. I tried to put myself in the customer's place. And I took the Fairbanks-Morse franchise for these reasons:

FIRST: I would rather sell the best-known line in water systems than sell against it. My customers know and want Fairbanks-Morse.

SECOND: Fairbanks-Morse gave me a complete line to sell—engine- and motor-driven systems to meet any need from 200 to 5000 g.p.h. I never have to turn down an order because I haven't the equipment to deliver.

THIRD: One organization stands behind the equipment—and that means less headaches for me.

FOURTH: They do a real job of national advertising, and I get every one of the leads in my territory."



This automatic, self-oiling F-M Typhoon water system delivers 600 to 1000 gallons per hour. Other models up to 5000 g.p.h. Also furnished with "Z" engine drive. Just one of the many F-M Home Water Systems.

• • •

The F-M dealer franchise on home water systems is still open in some communities to live-wire dealers. If you are interested just pin the coupon to your letterhead and mail it today. You'll be on your way to new and bigger profit opportunities. Mail coupon now.

FAIRBANKS, MORSE & CO.

MANUFACTURERS • CHICAGO, U. S. A.

Branches and Service Stations Covering Every State in the Union

FAIRBANKS, MORSE & CO., Dept. 4711, 900 S. Wabash Ave., Chicago
Please mail me full information on ☐ F-M Dealer Franchise ☐ Water Systems ☐ Home Lighting Plants

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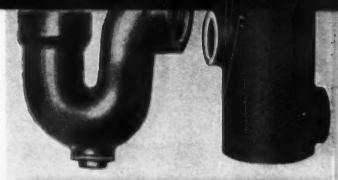
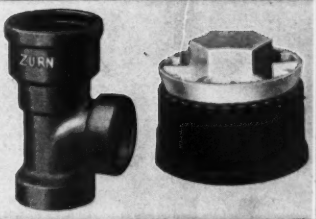
ZURN-ERIE

PLUMBING DRAINAGE PRODUCTS ★ ROOF TO BASEMENT ★ ★ ★



Left: Fig. E-604 "P" Trap
Right: Fig. E-490 Drum Trap



Left: Fig. E-397 "Kennedy" or "Jiffy Tee"
Right: Fig. E-118 "Supremo" Cleanout Plug

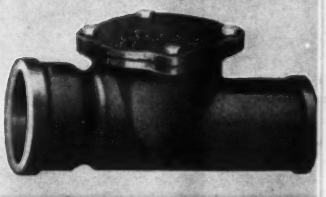


Fig. E-2 "Palmer" Improved Sewer Gas and Backwater Trap

Fig. E-13 Floor Drain with Internal Cleanout

...embody the accumulated experience of over thirty years devotion to the creation and improvement of every type of fitting required for installation of a modern plumbing drainage system... a fitting for every purpose from roof to basement. Though usually out of sight and out of mind, Zurn Plumbing Drainage Products effectively guard buildings against premature depreciation and protect the health of those who occupy them. Each product is the result of an understanding of practical conditions concerning its installation and use. Thus Zurn Plumbing Drainage Products fulfill the exacting requirements common to plumbing drainage systems. Produced by modern methods—engineered by men who "think through". Order by name from your wholesaler, you will find them different!

The Zurn Line Includes: Traps, Drains, and Interceptors for All Purposes; Backwater Devices; Closet and Lavatory Carriers; Closet Connections; Cleanouts; Swimming Pool Equipment; Drainage Fittings.

J. A. ZURN MANUFACTURING COMPANY
SALES OFFICE AND FACTORY **ERIE, PENNSYLVANIA**

Fig. Z-450 Floor or Shower Drain with Integral Trap

Fig. Z-100 Roof Drain

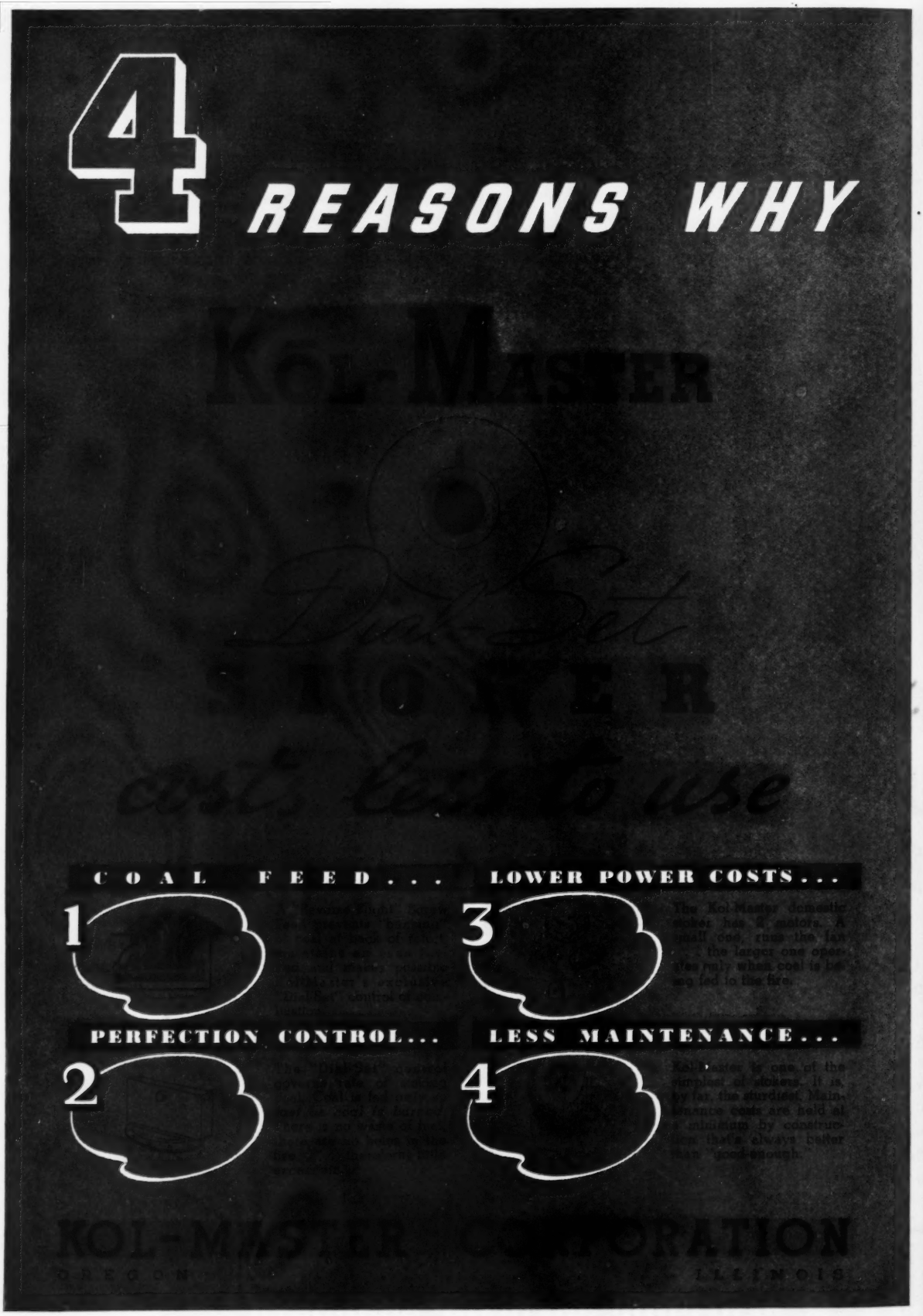
The Zurn "Greaseptor"

ZURN **PLUMBING DRAINAGE PRODUCTS**

are the most practical to use.

CALL ON ANY OF THESE ZURN REPRESENTATIVES... THEY'LL BE GLAD TO HELP YOU

A. Mitchell, Jr., Albany, N.Y.; Hugh W. Powel, Atlanta, Ga.; Ferd L. Eidman, Baltimore, Md.; E. Harris Barbour, Boston, Mass.; James Glass, Jr., Buffalo, N. Y.; H. T. Purcell, Chattanooga, Tenn.; H.O. Anderson, Cincinnati, O.; S. W. Duschak, Chicago, Ill.; S. A. George, Cleveland, O.; Herbert D. Moe, Denver, Col.; Frank C. Davitt, Detroit, Mich.; Paul P. Wagner, Harrisburg, Pa.; C. H. Dinkelacker, Houston, Tex.; L. L. Wright, Indianapolis, Ind.; H. M. Ludlow, Jackson, Miss.; J. C. Pastor, Jacksonville, Fla.; Fletcher-Weil Co., Los Angeles, Cal.; C. E. Schumell, Milwaukee, Wisc.; Fred J. Barr, Minneapolis, Minn.; R. G. K. Ward, Montreal, Can.; P. E. Hanlin, Newport News, Va.; L. W. White, New York, N.Y.; Sol Moser, Newark, N.J.; A. Stephen Rodgers, Philadelphia, Pa.; Wayne Paulin, Pittsburgh, Pa.; Wm. H. Shepard, Rockhill, S.C.; Fletcher-Weil Co., San Francisco, Cal.; G & M Schwabe, San Juan, Porto Rico; J. W. Mitchell, Seattle, Wash.; L. D. Gray, St. Louis, Mo.; James P. Harper, Washington, D.C.


4 REASONS WHY
KOL-MASTER
STOKER
COAL FEED...
1
LOWER POWER COSTS...
3
PERFECTION CONTROL...
2
LESS MAINTENANCE...
4
KOL-MASTER CORPORATION

even the SMALLEST HOMES can have all the ADVANTAGES of a

KEWANEE STEEL BOILER

Here's the latest Kewanee Type "R"... a new small size No. 1734 ... *rated 400 square feet steam capacity* ... the smallest steel heating boiler built ... priced down to the level of the lowest cost heating boilers.

In its Smartline Rex Jacket only the covering is seen ... but inside is a *"Healthy Heart of Steel"* ... the famous Kewanee Round "R" ruggedly built, as all its predecessors, to insure dependable heat with the greatest economy of fuel.

KEWANEE No. 1734 Type "R"
400 Square Feet Steam, Burning Oil
Pictured in a Rex Smartline Jacket
...also in Square Regal Jackets... to completely enclose boiler and any burner.

KEWANEE BOILER CORPORATION
KEWANEE, ILLINOIS
Eastern District Office: 37 W. 39th St., New York City
BRANCHES IN 61 CITIES
division American Radiator & Standard Sanitary Corporation

HERE ARE FEATURES THAT MAKE WATROUS FLUSH VALVES EASY TO SELL

-why not take advantage of them to make some added profits on flush valves

Watrous flush valves are built in diaphragm and piston types to meet the requirements of every type of building.

IT'S easy to sell flush valves today because your prospect realizes the importance of modern sanitation . . . and when you have the detailed story of why the Imperial Brass Mfg. Co. line of Watrous Flush Valves handle the flushing problem in a way that goes far beyond any previous method, you will appreciate why they are so easy to sell.

You can take full advantage of this trend toward the modern in sanitation and you can make yourself some real money on flush valves. But in order to do it you should be equipped with up-to-date information about flush valves. Catalog No. 433 covers the complete line of Watrous Flush Valves and it will give you a lot of valuable information. A line from you will bring it.

IMPERIAL BRASS MFG. CO.

1231 W. Harrison St., Chicago, Ill.

210 E. 45th St., New York, N. Y.

Only Watrous Flush Valves Combine all These Features

1 Remarkable water economy is achieved by a number of important design features which completely eliminate needless waste of water.

2 Simple screw driver adjustment makes it possible to secure the maximum flushing efficiency for each installation.

3 Unusually large water ways assure good flushing action even when water pressure gets low.

4 Length of flush does not change with use because scaling and clogging of the by-pass orifice is entirely eliminated by the patented self-cleaning by-pass feature.

5 A non-hold-open feature can be furnished so that the flushing time remains the same regardless of how long the handle is held down.

6 Built and guaranteed by an organization with a half century of leadership in the building of highest quality brass and bronze products.

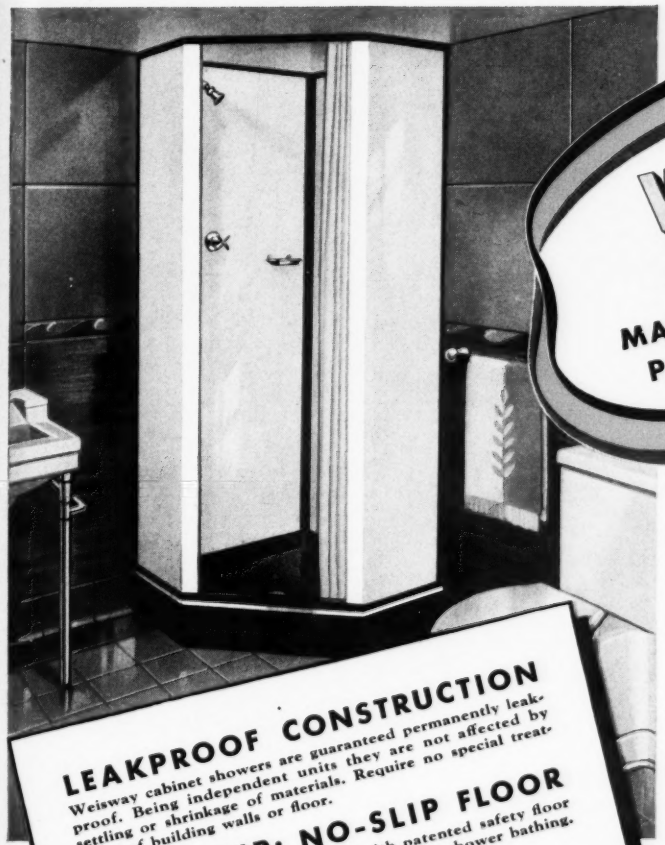
ORDER FROM YOUR JOBBER

Watrous *Flush Valves*

MAJESTIC
IMPERIAL
JEWEL

THEY PAY FOR THEMSELVES IN THE WATER THEY SAVE

Are You Set, Mr. Plumber TO CASH IN ON THIS BIG NEWS ?



WEISWAY
Cabinet Showers
MAKE EXTRA BATHS EASILY POSSIBLE IN ALL HOMES

LEAKPROOF CONSTRUCTION

Weisway cabinet showers are guaranteed permanently leak-proof. Being independent units they are not affected by settling or shrinkage of materials. Require no special treatment of building walls or floor.

FOOT-GRIP; NO-SLIP FLOOR

The vitreous porcelain receptor with patented safety floor adds a new sense of sure-footed comfort to shower bathing. Sanitary and soundless as the tread of a bare foot.

THAT'S big news to Mr. and Mrs. John Public, who see Weisway cabinet showers as the answer to their urgent need of more bathing facilities.

It's bigger news to you, Mr. Plumber, if you are set to fill that need. It means extra profits on Weisway sales and installations. And it means more profits through the sale of additional fixtures which go into complete bathrooms.

Right in your neighborhood are scores of families who have outgrown the one bathroom in their homes. Others, planning to build, are determined to avoid the same mistake.

To these prospects the Weisway story is being told in important magazines. Architects and quantity builders are getting the facts in their trade papers. Weisway sales are soaring — and every sale means a profit to some plumber, because Weisways are sold only through recognized plumbing channels.

Tie in with this profit opportunity now. Use Weisway posters and sales helps. Above all, have an actual cabinet on your floor to bring these prospects to you. *Special Discount on Display samples.* Write now for complete information, without obligation to you.

HENRY WEIS MANUFACTURING CO., INC.
Cabinet Shower Division
404 Oak Street, Elkhart, Indiana

The infant shower hammock, much appreciated by mothers. Gentle spray is good for baby, too.

Growing children love to bathe in a Weisway, which is easily adapted for their use.

For aged and less active a Weisway ends difficulty and danger of climbing into and out of a tub.

WEISWAY CABINET SHOWERS PROVIDE THE MODERN WAY TO BATHE FOR THE WHOLE FAMILY

Size 8½x11, Bound in Fabrikoid. $5 postpaid.

DOMESTIC ENGINEERING
PLUMBING-HEATING
CATALOG
AND
DIRECTORY

practical

. . .

because it is "custom built" to fit the needs of the men who use it. The greatly enlarged Manufacturers' Catalog Section is a time-saver to Contractor-Dealers and Wholesalers throughout the entire Plumbing and Heating industry.

54 pages of standard technical data found in the Tables and Rules Section . . . a Classified Directory Section of over 1,300 items used in the Plumbing and Heating trade . . . and a Name and Address Section of over 4,000 Manufacturers of Plumbing and Heating Supplies assure the value of the 1937 Domestic Engineering Plumbing and Heating Catalog-Directory.

Is it any wonder that this Big Orange Book is used every day—everywhere?

15 years compiling and distributing catalogs in the style to which the Buyers in the Plumbing and Heating Industry have been accustomed.

DOMESTIC ENGINEERING COMPANY

Catalog-Directory Department

1900 Prairie Avenue

Chicago, Illinois

DEVELOPED THROUGH 50 YEARS

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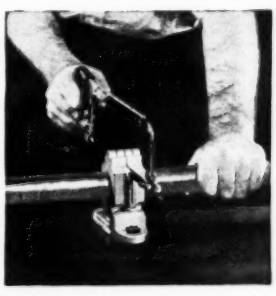
TO MEAN A GREAT NAME IN WRENCHES

TRIMO

Made throughout of Chrome Molybdenum Nickel Alloy Steel. Drop Forged.

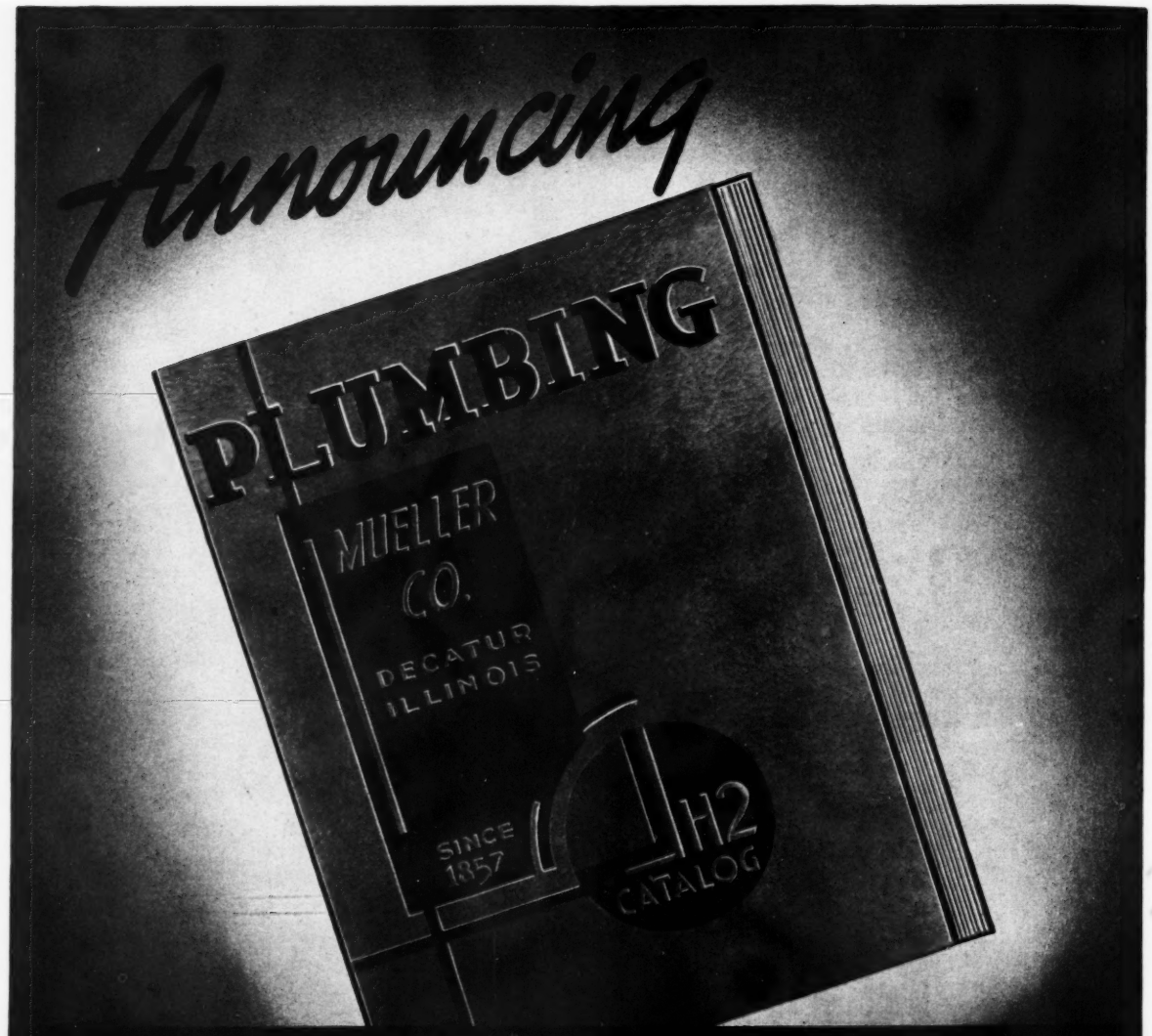


TRIMO SAWING VISE SET

Saves more than its cost on first job. Makes every cut 100% square. Eliminates damaged tubing which might have to be thrown away.

Look for the Red Tag always attached to every Trimo Wrench

TRIMONT MFG. CO., INC., ROXBURY (BOSTON), MASS.



A new catalog for the
PLUMBING INDUSTRY

Here is a new Plumbing Catalog that will act as your showcase, sales floor and warehouse combined because it is handsomely illustrated and gives complete detailed specifications on every item in the extensive Mueller Line.

Mueller engineers have improved an already outstanding plumbing line to fill even wider requirements, to assure even more complete satisfaction and efficient installations. You will need this catalog in order to cash in on real profitable business. Don't delay—send for YOUR copy TODAY!!!

Dept. D.,
Mueller Co.,
Decatur, Illinois.
Gentlemen:
Please send me copy of your new H-2 Plumbing Catalog.

Name .....
Address ..... State .....
City .....

WRITE FOR YOUR COPY TODAY

MUELLER CO.
DECATUR, ILLINOIS : LOS ANGELES, CALIFORNIA

What a difference!

...a way to more Spring oil burner sales!

- **IT TOOK ONLY A FEW SHORT HOURS** — a transformation that converted an ugly, junky cellar into a modern basement with all the conveniences of modern automatic heating—and tankless year-'round domestic hot water supply.

- **IN A FEW SHORT HOURS** *you, too,* can make a change like this. The "streamline styled" Fitzgibbons OIL-EIGHTY copper-steel boiler equipped with the Fitzgibbons TANKSAVER, makes this possible.

- With its one-piece construction (the copper TANKSAVER coils come mounted in place inside the boiler) and with a jacket designed for easy assembly, you will find everything set for quick installation. The largest sizes easily pass through a 30-inch doorway.

Make this Spring the most profitable you have ever had. Go after those prospects who are ripe for automatic heat and are now about to act. Sell them your burner with the OIL-EIGHTY — a combination that gives them automatic heat, "streamline styled" beauty, *steel* boiler heating speed and efficiency, and *tankless* year-'round domestic hot water supply. Clinch the sale with the argument of *quick installation.*

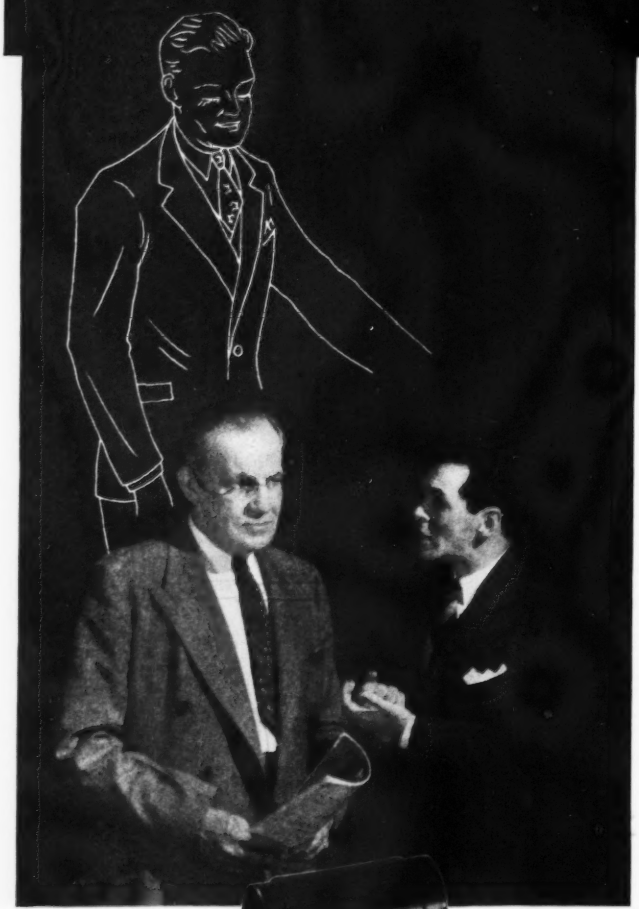
Get full information about the OIL-EIGHTY, and the new Fitzgibbons Dealer Franchise.

Fitzgibbons Boiler Company, Inc.
GENERAL OFFICES AND SHOWROOM:
ARCHITECTS BLDG., 101 PARK AVE., NEW YORK, N. Y.
BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

MEMBER OBI OIL BURNER INSTITUTE

FITZGIBBONS OIL-EIGHTY AUTOMATIC
the steel boiler for oil burners

IN EVERY SALE THERE ARE TWO SALESMEN



ONE IS YOU — THE OTHER, THE VOICE OF QUALITY. You—even with expert sales technique — can make sales only when your prospects feel that they are obtaining a high-quality domestic water system. You may quickly arouse attention, interest, and desire, but you actually close sales only when the convincing voice of quality tells your prospects that they are getting their money's worth.

The G-E monogram is recognized everywhere as a mark of high quality, and a G-E motor on the domestic water system you sell convinces your prospects, at a glance, that the electric equipment is dependable. This assurance, coupled with the reputation of the manufacturer of the water system, gives your prospects even greater conviction that the entire unit is of high quality, and makes selling much easier.

Use G-E motors on your domestic water systems and amplify the sales voice of quality — make these capable assistants do more of the actual selling. General Electric, Dept. 6A-201, Schenectady, New York.

A NEW G-E CAPACITOR-MOTOR

Since domestic water systems must operate, year after year, with little or no attention, General Electric has developed a form of the capacitor-motor to meet these grueling service demands. The capacitor-motor is a proved success for such applications—more than four million are giving reliable, satisfactory service on electric appliances. They have neither brushes nor commutator to require periodic servicing, and they do not interfere with radio reception.

LET G-E MOTORS HELP YOU SELL

070-176

GENERAL ELECTRIC

CROWDS Make Quiet May 1937 Line A HIT PARADE

QUIET MAY dealers are selling every unit in the great new 1937 line at a clip that makes quotas look petty.

There's a big increase in prospects for Quiet MAY burners at the new low price in the small home field. There's an amazingly large percentage of prospects, attracted by the opportunity to get a burner of Quiet MAY quality at low price, who are buying, instead, the new Quiet MAY oil furnaces, direct-fired warm air furnaces and HEAT-AN-AIRE conditioners.

There is still some open or inadequately covered territory. Stake your claim for it. With the complete new line, priced to make every home a sales possibilty, and with the fine, fair franchise we offer, you can make this big oil burner year a record profit year.

THE CRUISING SHOW ROOM

A sensational sales-builder, wherever it goes, will be coming into your territory soon. Make sure that it will be working for you. MAIL THE COUPON or preferably, use your letterhead. Upon request, "Cruiser Show Room" visiting dates will be sent you.

MAY OIL BURNER CORPORATION, Baltimore, Maryland

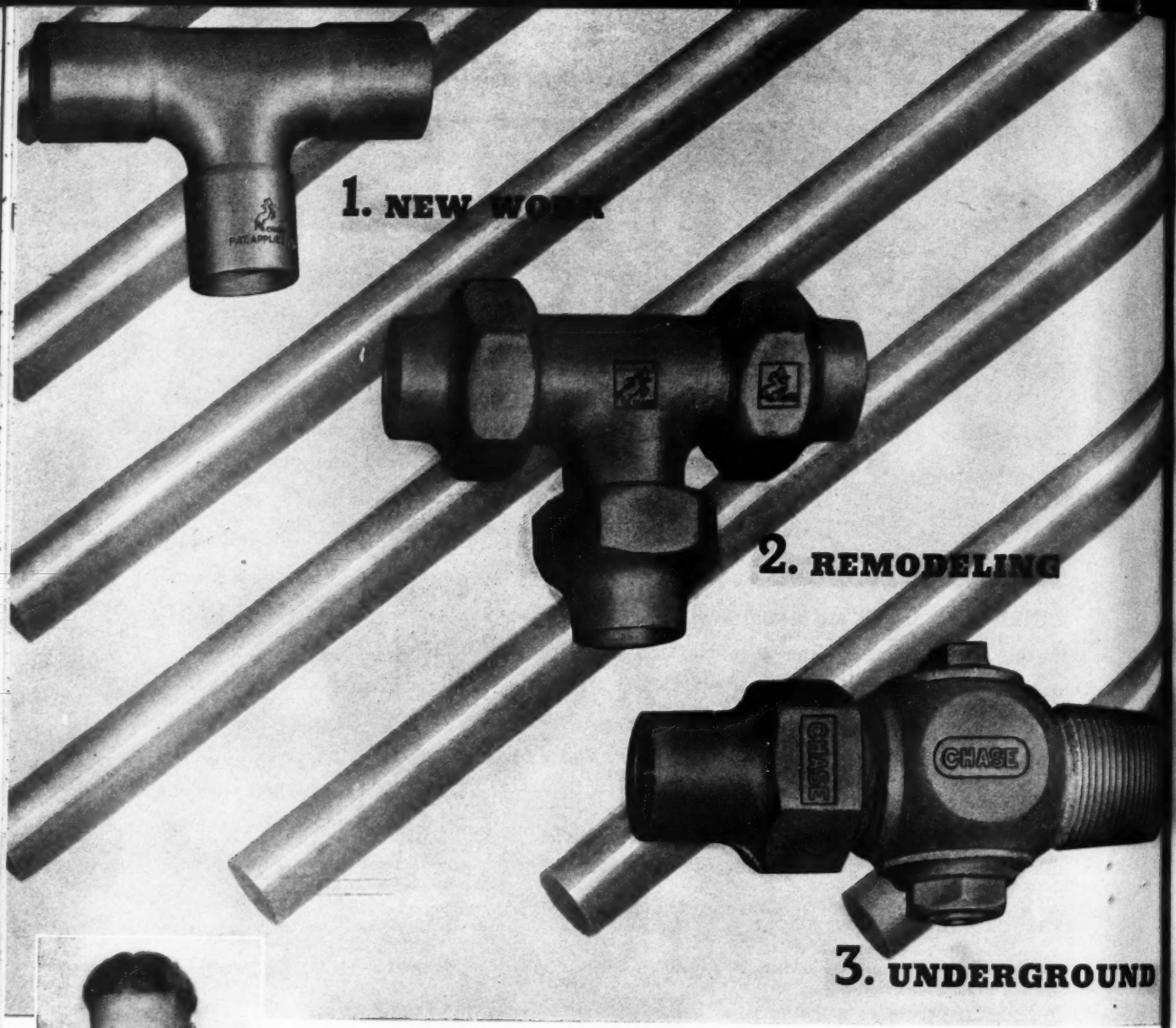
Tear off Coupon

MAY OIL BURNER CORPORATION, Dept. H
Baltimore, Maryland

Am interested in franchise for_____territory. Please advise visiting date of "Cruising Show Room."

Name_____

Address_____



"We have used Chase Copper Tube and Sweat Fittings on a great many jobs in the past few years. We know from experience there's nothing better or stronger than this kind of sweated connection." Chester H. Keller, Atchison & Keller, Washington, D. C.

CHASE HAS ALL THREE

COMPLETENESS is one of the many advantages of standardizing on Chase Copper Water Tube and Fittings. "New Work", "Remodeling" or "Underground"—you can save time and trouble by concentrating on Chase.

Sold by Plumbing Supply Jobbers

CHASE

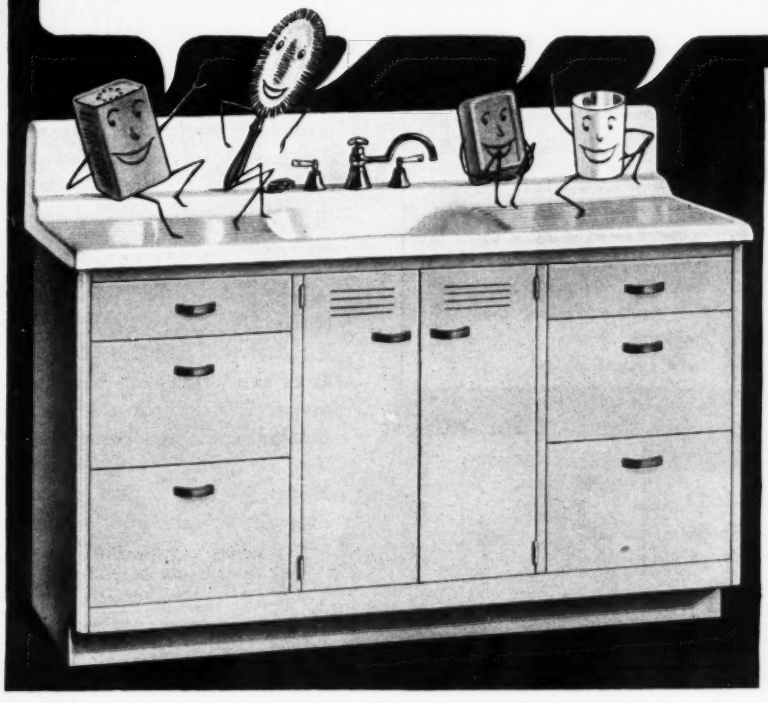
BRASS AND COPPER

CHASE

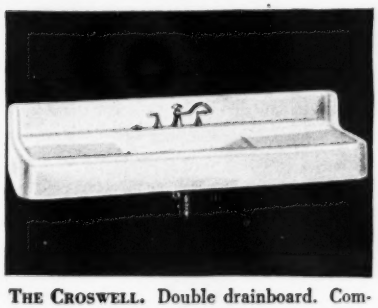
Brass Pipe
Copper Tube
Sweat & Flared Fittings
Plumbing Supplies
Copper Roofing Products

CHASE BRASS & COPPER CO.
Incorporated
Subsidiary of Kennecott Copper Corporation
Waterbury Connecticut

"WE LIKE KOHLER'S FULL-FLEDGED LEDGE"

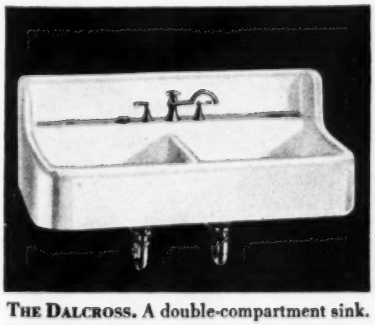


CAMBERLEY CABINET SINK. Drawers and doors open and close quietly. Double drainboard, 8-inch-deep basin. Fitting with diverter and concealed hose. Kohler Duostrainer. 60" x 25".

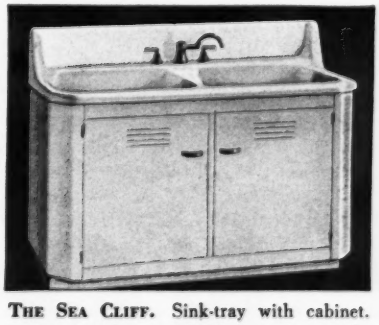


THE CROSWELL. Double drainboard. Combination supply fitting. Downspray. Concealed hose. Duostrainer. 60"x24" or 74"x24".

THE CROFTON. Available with sink at right or left. Swing-spout faucet. Duostrainer. Downspray with concealed hose. 52" x 24".



THE DALCROSS. A double-compartment sink. Downspray with concealed hose. Combination supply fitting with swing-spout. Two Duostrainers. 8-inch-deep basins. 42"x 22".



THE SEA CLIFF. Sink-tray with cabinet. Swing-spout faucet. 14-inch-deep tray. 8-inch-deep sink. Interchangeable drainboard available. 42"x 24" or 50"x 24".

...AND SO DO MASTER PLUMBERS

EVERY once in a while a new idea hits home! Kohler ledge-back sinks are another Kohler "first" . . . invented by Kohler, popularized by Kohler. The 3-inch ledge clear across the back —with ample space for soaps, cleansers, brushes, other articles — saves steps for housewives, steps up sales for Master Plumbers.

Kohler ledge-back sinks have many more outstanding features. They are made of heavy enameled cast metal with no dirt-gathering joints—they're easy to clean and keep clean. Enameled by the "Dry" process, they have, and retain, extra-high luster. Large drainboards offer plenty of counter space. Some sinks are available with convenient roomy cabinets for pots, pans and other utensils. Additional sales appeals include: swing-spout mixing faucet, disappearing spray hose, and the ingenious Kohler Duostrainer that makes waste disposal easy.

These "bread-winners" come in many sizes, many styles—with single or double drainboards, with or without cabinets. They fit many kitchens, many budgets. Stock them . . . and other Kohler fixtures! There's no substitute for Kohler quality! Kohler Co. *Founded 1873.* Kohler, Wis. *Shipping Point,* Sheboygan, Wisconsin.

● *We invite you to visit the Kohler exhibit at the National Convention of Master Plumbers in Atlantic City, May 24 to 27.*

KOHLER OF KOHLER

PLANNED PLUMBING AND HEATING

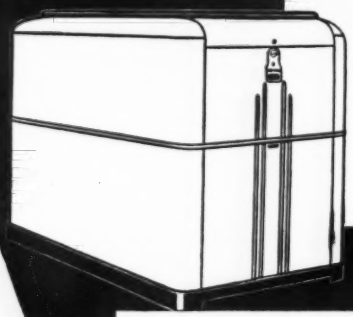
AGAIN NORGE LEADS!

HOME HEATING EQUIPMENT THAT HELPS PAY FOR ITSELF THROUGH SAVINGS IT CREATES

● Like all Norge products, Norge heating and air-conditioning equipment has vital differences in design and construction to assure maximum operating economy. The money saved in fuel costs alone, when an old-fashioned heating plant is replaced with a super-efficient Norge Fine-Air Conditioning Furnace, will convince any owner of the wisdom of his investment. Investigate the Norge heating and air conditioning line without delay. Ask the Norge heating expert to come over and discuss your problem.

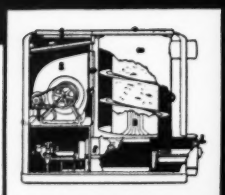
NORGE HEATING AND CONDITIONING DIVISION *Borg-Warner Corporation, Detroit, Michigan*

HC-4



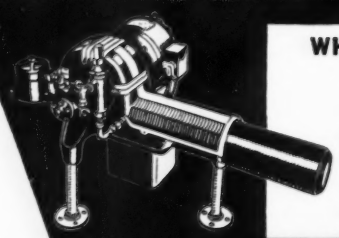
NORGE FINE-AIR CONDITIONING FURNACE

Filters, warms, humidifies, and circulates air in every room of the house. Can be adapted easily to full summer air conditioning as well. Delivers more than twice the amount of heat that old-fashioned furnaces do from the same amount of fuel.



CUTS HEATING COSTS

Exclusive design of heat transfer unit makes possible a saving of up to 50% in heating costs for the average home now using old-fashioned equipment.

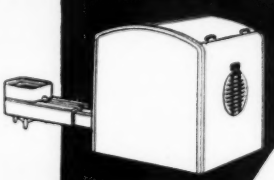


WHIRLATOR OIL BURNER

The Norge Oil Burner operates on the exclusive Whirlator principle—clean, quiet, economical. For use in the Norge Fine-Air Furnace or in modernizing existing heating plants.

NORGE GAS BURNER

Cuts gas heating costs as much as 50%. Triple-control gives economy never before possible with gas. Be sure to get full details about this amazing burner.



NORGE COAL STOKER

Makes an automatic heating plant of the old-fashioned coal furnace. Extra capacity, most modern design, low in cost. Feeding mechanism of exclusive Norge construction—trouble-free, dependable.

● Norge Rollator Refrigerators, Gas and Electric Ranges, Washers and Ironers are the new performance and style leaders.

NORGE

Plus Value **HOME APPLIANCES**

PLUMBERS, HEATING CONTRACTORS WELCOME TWO-WAY PROFIT on New Tank Heater Regulator

$3.00 profit on each Regulator sold, plus profit on installation

Easy to sell, too . . . send for Free Sales Manual

PLUMBERS AND HEATING CONTRACTORS find that the new 'blue coal' Hot Water Regulator is not only a quick, easy seller itself, but it helps sell tank heaters, storage tanks and other equipment.

Offers Users These Four Big Advantages: 1. All the hot water needed—automatically. 2. Always clean—no rusty water. 3. Saves fuel. 4. Enables large users to cut hot water costs 25% to 75%.

FREE SALES MANUAL. To promote the sale of this new Regulator—and show you how to get your share of the "extra profit" business it offers—'blue coal' has prepared a comprehensive Sales Manual which is yours for the asking. It tells you how to quickly get across to your prospects the added convenience and money-saving possibilities of this Regulator.

A COMPLETE LOCAL ADVERTISING CAMPAIGN is also available to you—including colorful direct mail material, and mats for newspaper advertisements featuring the Regulator. The D. L. & W. Coal Company will gladly furnish you with mats free of charge. These sales-making ads, appearing in your local papers over your own name, will tie up your business directly with the powerful advertising which 'blue coal' is putting behind this Regulator.

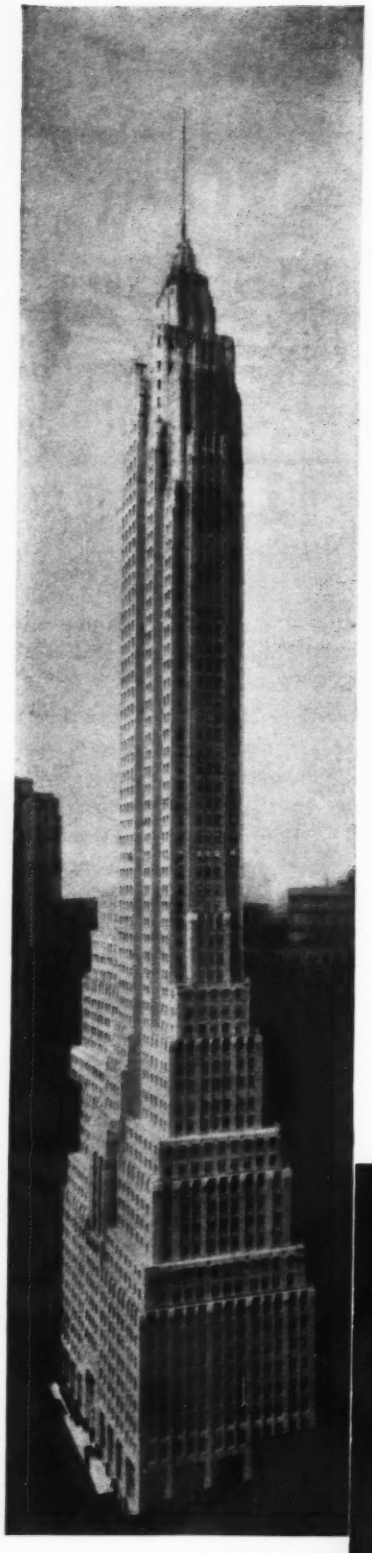
Join the 'blue coal' parade to extra profits. Write for the 'blue coal' Hot Water Regulator Sales Manual today—also full information on how to put 'blue coal' Regulator advertising to work for you.

* * *

Plumbing and Heating Jobbers and Wholesalers are urged to write us for full information, prices and discounts on the new 'blue coal' Hot Water Regulator.

'blue coal' HOT WATER REGULATOR

THE DELAWARE, LACKAWANNA & WESTERN COAL CO., 120 BROADWAY, N. Y. C.



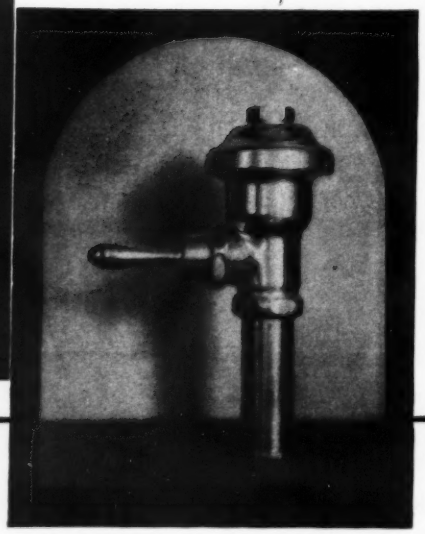
Try this

SIMPLE TEST

yourself

Whenever you see a flush valve installation, look for the name of the manufacturer stamped on the top nut of the flush valve. No matter where you go, you will find that in the vast majority of cases the name is SLOAN VALVE CO., CHICAGO.

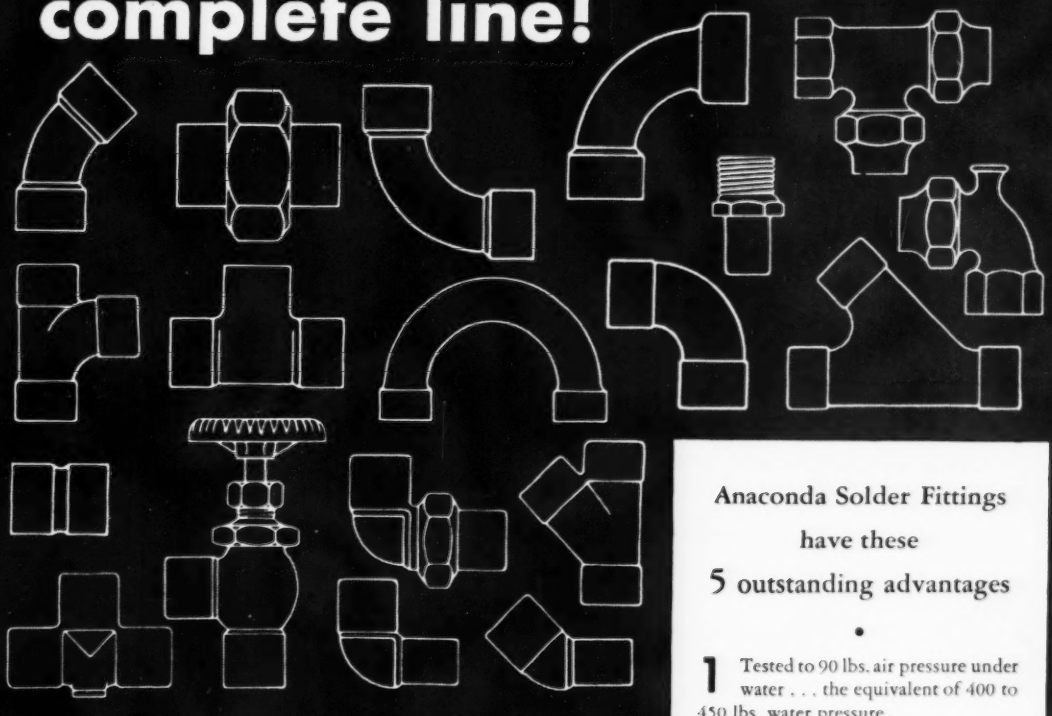
Illustrated is 60 Wall Tower, New York, equipped with Royal Flush Valves



SLOAN

FLUSH VALVES

Select your Solder-type Fittings from Anaconda's complete line!



Anaconda Solder Fittings have these 5 outstanding advantages

•

1 Tested to 90 lbs. air pressure under water . . . the equivalent of 400 to 450 lbs. water pressure.

2 Precision-made to close tolerances . . . then double-checked with "Go and No-Go" gauges.

3 Smooth inside surfaces permit quick, thorough cleaning . . . essential to satisfactory soldering.

4 Made with longer cups which provide longer and stronger bonds . . . more support for tubes.

5 Easy to install. Save time and money . . . do not require special layout because of fittings. Solder may be introduced at *any* point along edge of Anaconda Fittings.

3724

THE American Brass Company now offers a complete line of Anaconda "Solder-Type" Fittings both in wrought copper and cast bronze. In this wide range the contractor will find Anaconda Fittings for *every* copper tube requirement.

Anaconda Solder Fittings are uniform in quality, free from porosity, precision-made . . . and have exceptionally smooth inside surfaces. They are sold by distributors of Anaconda Brass Pipe and Copper Tubes.

Look for the name ANACONDA on the fittings you buy! It is your assurance of the highest quality.

• • •

Anaconda Deoxidized Copper Water Tubes are furnished hard and soft in straight lengths, soft in coils, and in three standard wall thicknesses . . . Types "K", "L" and "M". ANACONDA

Anaconda Copper & Brass

THE AMERICAN BRASS COMPANY, General Offices: WATERBURY, CONNECTICUT

Offices and Agencies in Principal Cities • In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.

FREE SHOWROOMS

that work for you!

The Monel kitchens displayed by the utilities make your customers want Monel. But for sinks and cabinets they come to you!

1937 IS YOUR PAY-OFF YEAR

one more reason why

In 1936, 10,000,000 people heard about complete all-metal kitchens, through big national ads. In 1937, they'll hear about them nearly twice as often.

For this year, we, the exclusive makers of Monel sinks and the matching cabinets, are advertising "Whitehead" Kitchens, in the same magazines used by International Nickel Co. to advertise Monel. Get out and grab your share of the business from the increasing demand.

A DISPLAY room that shows *your* merchandise, yet costs you no rent! That's just about what you actually get from Whitehead in 1937. Here's how:

On hundreds of display floors of the utility companies, your customers see attractive kitchens like the one above. Credit those displays to the widespread public interest in Whitehead Monel sinks and cabinets to match.

What the utilities want, of course, is to sell Monel-topped ranges. But what the public carries away is the determination to have a complete "Whitehead" kitchen just as soon as they can.

AND NINE TIMES OUT OF TEN, THEY START WITH THE SINK. But they can't buy the sink from the utilities! For the "Whitehead" sinks, in 57 different models, and the wide assortment of all-metal Whitehead cabinets to match . . . they come *to you*. That is, they come to you if you have made sure all your customers know you're the Whitehead dealer.

Here's the real way to land this business: *Don't wait for them to come.*

All round you you find more interest in up-to-date kitchen equipment than ever before. Get out and see 20 people a week. Tell them you're the man who can equip their kind of a kitchen, in long-lived Monel. If you do that, your cash book will show you that the more "Whitehead" kitchens there are on display, the bigger your business.

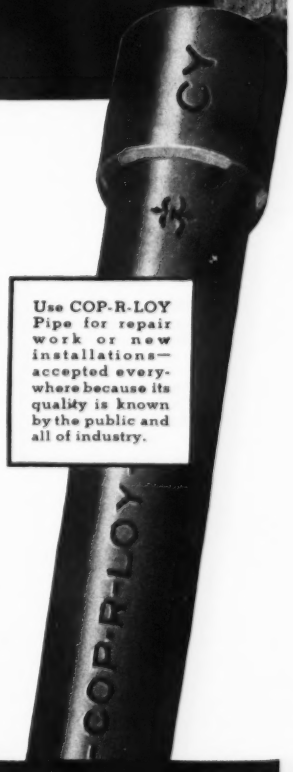
WHITEHEAD

METAL PRODUCTS CO. OF NEW YORK, INC.
304 Hudson Street, New York, N. Y.

3,000 *Guests get the Comfort of* AIR CONDITIONING

Down in "The Tunnels," three floors below the lobby of The Stevens Hotel, Chicago, duct work made of COP-R-LOY sheets, and pipe of COP-R-LOY, take care of air conditioning for this Grand Ballroom which seats 3,000 guests . . . also for two other ballrooms and six spacious dining rooms. COP-R-LOY Sheets are selected by engineers, and sheet metal contractors because they have proved both their adaptability to fabrication and their economy in installation and long life. Leading distributors supply you COP-R-LOY Sheets and COP-R-LOY Pipe. Order COP-R-LOY by name . . . It's Wheeling Steel. Wheeling Steel Corporation, Wheeling, West Virginia.

COP-R-LOY
Reg. U. S. Pat. Off.



Use COP-R-LOY Pipe for repair work or new installations—accepted everywhere because its quality is known by the public and all of industry.

IT'S WHEELING STEEL

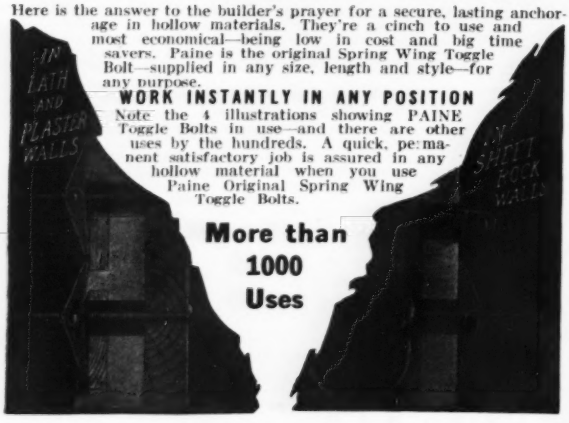
Fig. 123

PAINE ORIGINAL SPRING WING TOGGLE BOLTS

Here is the answer to the builder's prayer for a secure, lasting anchorage in hollow materials. They're a cinch to use and most economical—being low in cost and big time savers. Paine is the original Spring Wing Toggle Bolt—supplied in any size, length and style—for any purpose.

WORK INSTANTLY IN ANY POSITION

Note the 4 illustrations showing PAINE Toggle Bolts in use—and there are other uses by the hundreds. A quick, permanent satisfactory job is assured in any hollow material when you use Paine Original Spring Wing Toggle Bolts.



Paine Adjustable Radiator Bracket

Provides for foot (vertical and horizontal) adjustment. Made of heavy pressed steel and in two lengths. Low in cost. Easier to use and gives lasting satisfaction.

Fig. 820

Paine Pipe Straps

Prominent center bead — or rib — gives amazing strength. Made in all sizes—⅛" to 4".

Paine Wire Pipe Hooks

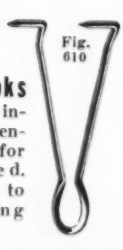


Fig. 610

Special design insures closely encircling pipe for which intended. Prominent head to facilitate driving spike.

Fig. 600

Paine Hanger Ring and Bolt

Made in all sizes. For pipe from ⅜" to 8" in diameter — and in black or galvanized stock.

Fig. 500

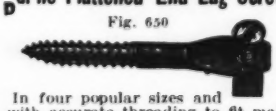
Paine Perforated Hanger Iron

Fig. 500A

In either Black or Galvanized and in 10 ft., 5 ft., and 4 ft. lengths. Also in 10 ft. coils to simplify stocking.

Paine Flattened End Lag Screw

Fig. 650



In four popular sizes and with accurate threading to fit malleable shields without jamming.

WRITE US ABOUT YOUR STAMPING PROBLEM

THE PAINE CO.

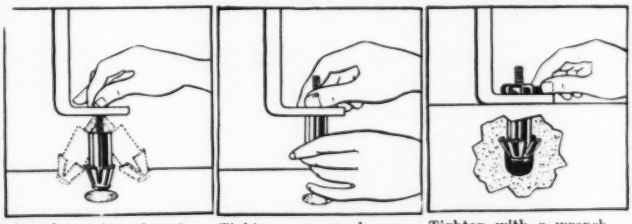
CHICAGO

ANCHORING DEVICES

Our SINGLE STANDARD of a straightforward sales policy and guaranteed best quality products has, over a period of more than two decades, made PAINE the outstanding source of supply for builders' anchoring devices.

Sold only through recognized wholesale channels and consistently specified by leading architects and contractors, PAINE Anchoring Devices sustain an established reputation for utmost all-around satisfaction.

Paine Steel Expansion Anchors



Attach anchor *loosely* to object to be anchored.

Tighten as much as possible *with fingers.*

Tighten with a wrench and PRESTO—a secure, lasting anchorage.

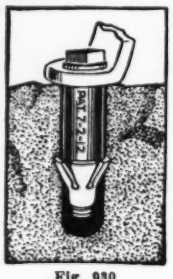


Fig. 930
Type No. 2

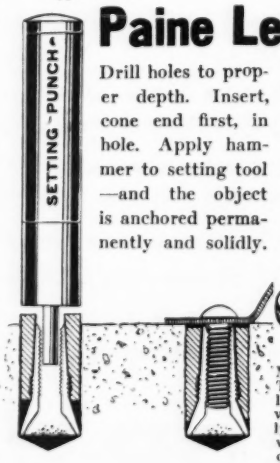
Lasting as the Material they are set in — and STRONGER

Paine Steel Expansion Anchors have the greatest expansion area of all expansion anchors. Made of steel, heavily galvanized, they are also the strongest and longest lasting.

You'll find them best—regardless of material they are set in—whether flint hard, medium or mushy. They are easiest to work with because holes to contain them need not be in exact plumb or alignment. This time-saving feature alone saves the cost of Paine Steel Expansion Anchors. They require no setting tool.

Paine Lead Anchors

Drill holes to proper depth. Insert, cone end first, in hole. Apply hammer to setting tool —and the object is anchored permanently and solidly.



For Attaching Any Object to Concrete, Brick, Tile, Slate, Marble, Stone, Mosaic, Etc.

Paine Lead Anchors come assembled, ready for use, and are expanded before fixture is put in position. Then, a few hammer blows on the setting tool which is supplied, drive the lead sleeve toward the base of the tapered cone or bolt, expanding the lead to wedge tightly on all sides along its entire length—a solid, permanent, satisfactory anchorage.

Fig. 900

Machine Screw Type—for shallow holes or where frequently dismantled work makes inconspicuous lead lined hole desirable.

Fig. 910

Bolt and Nut Type—small and very powerful. Withstands the strains and vibrations of heavy machinery. Ideal for theatre seats, etc.

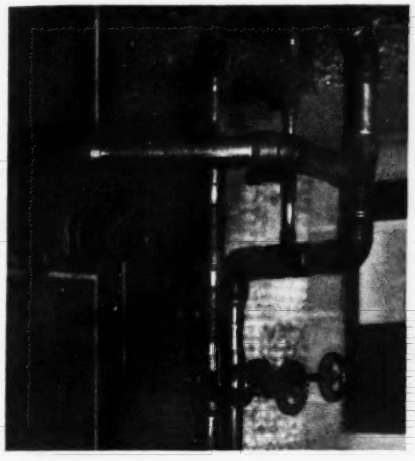
Paine Star Drill for Brick, Concrete, Stone, Etc.

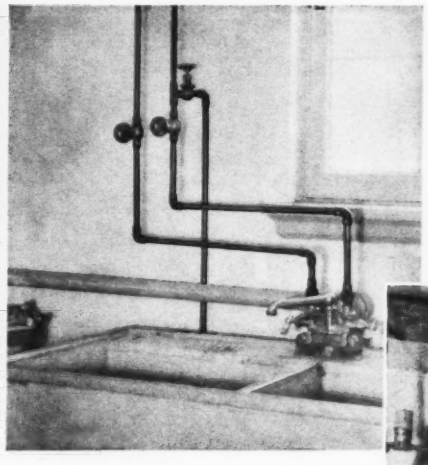
Fig. 375

Guaranteed—without equal for its purpose. Extremely hard and tough.

THE PAINE COMPANY • *Offices in Principal Cities* • **MAIN OFFICE 2951 CARROLL AVE., CHICAGO**

Paine Metal Plumbing Specialties Sold Only Through Regular Wholesale Channels



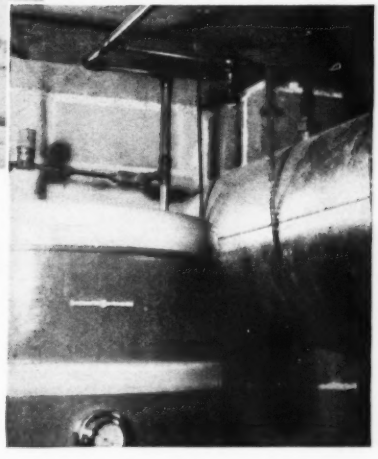


Extreme Left—Revere Copper Water Tube used for air conditioner connections in G. E. All American Home, Milwaukee, Wis.

Left—Revere Copper Water Tube used for hot and cold water lines in G. E. All American Home, Milwaukee, Wis.

Below—Revere Copper Water Tube used for G. E. heater and water tank connections in G. E. All American Home, Milwaukee, Wis.

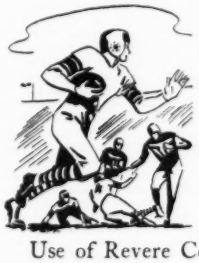
All joints are made with Streamline soldered Fittings



REVERE COPPER WATER TUBE

in the

G. E. "ALL AMERICAN HOME"



The G. E. All American Home stands for progress in home planning. Every item in it is chosen because it contributes to the comfort, protection and convenience of the home owner, and to the permanent value of his home investment.

Use of Revere Copper Water Tube in the G. E. All American Home at Milwaukee, Wis., as illustrated, typifies this trend toward better standards and lasting value in house construction and equipment.

Revere Copper Water Tube makes a good-looking job and gives lifetime service. Its reasonable initial cost is usually the final cost. Its inherent advantages over rustable materials, plus the fast-spreading idea that copper tube is "the thing to have," makes it easy for the live contractor to sell. Your customer gets a better installation. He will be proud of its reliability and fine appearance. And you enhance your reputation and make a satisfactory profit.

Revere Copper Water Tube should be specified and recommended for hot and cold water lines, heating lines (especially in connection with forced hot water heating systems), air conditioning cooling water and refrigerant lines, hot water heater connections, oil burner hook-ups from tank to burner, and for miscellaneous other requirements in domestic, commercial and industrial service.

Comes in three types K, L and M; in hard and soft tempers—the hard temper tube in straight 20-foot lengths; soft temper tube in 30-foot, 45-foot and 60-foot coils. Write for special 40-page book—"Revere Copper Water Tube." Please address your inquiry to our Executive Offices, 230 Park Avenue, New York City.

Revere Copper *and* Brass

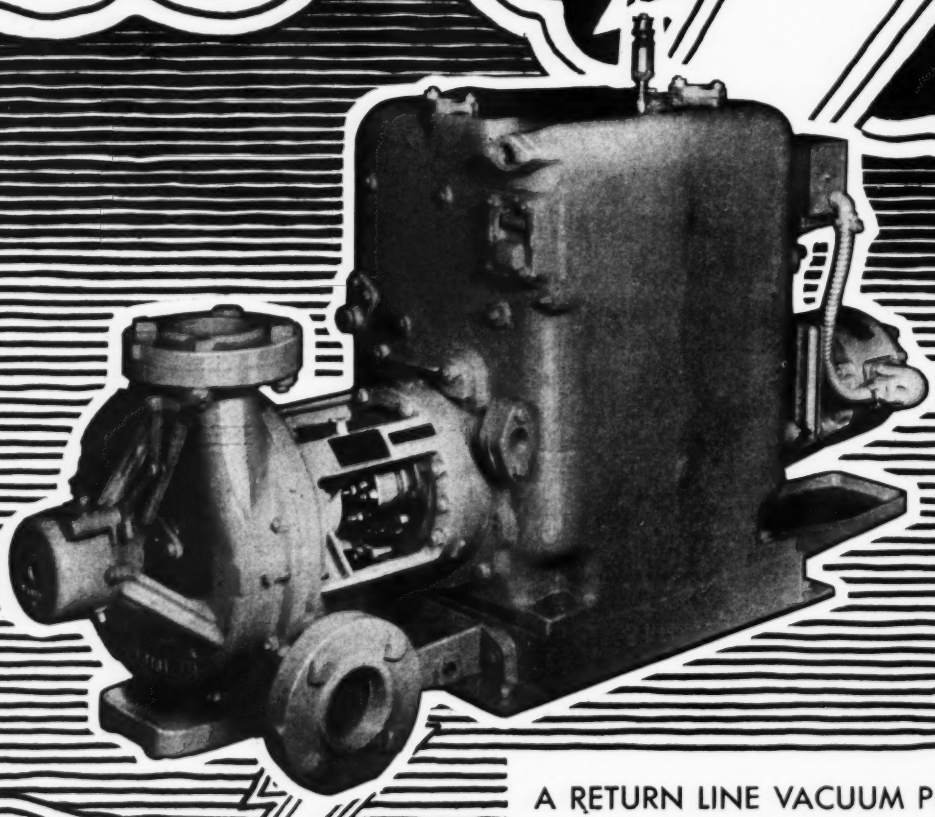
FOUNDED BY PAUL REVERE

1801

INCORPORATED

EXECUTIVE OFFICES: 230 PARK AVENUE, NEW YORK CITY · MILLS: BALTIMORE, MD. · TAUNTON, MASS. NEW BEDFORD, MASS. · ROME, N. Y. · DETROIT, MICH. · CHICAGO, ILL. · SALES OFFICES IN PRINCIPAL CITIES

RIGHT TO THE POINT!



ECONOMY

A RETURN LINE VACUUM PUMP THAT CUTS HEATING COST.

This unusual pump needs no electric current, cutting out greatest item of pump operating expense.

More important, this pump insures absolutely uniform circulation in system. That means continuous steam economy.

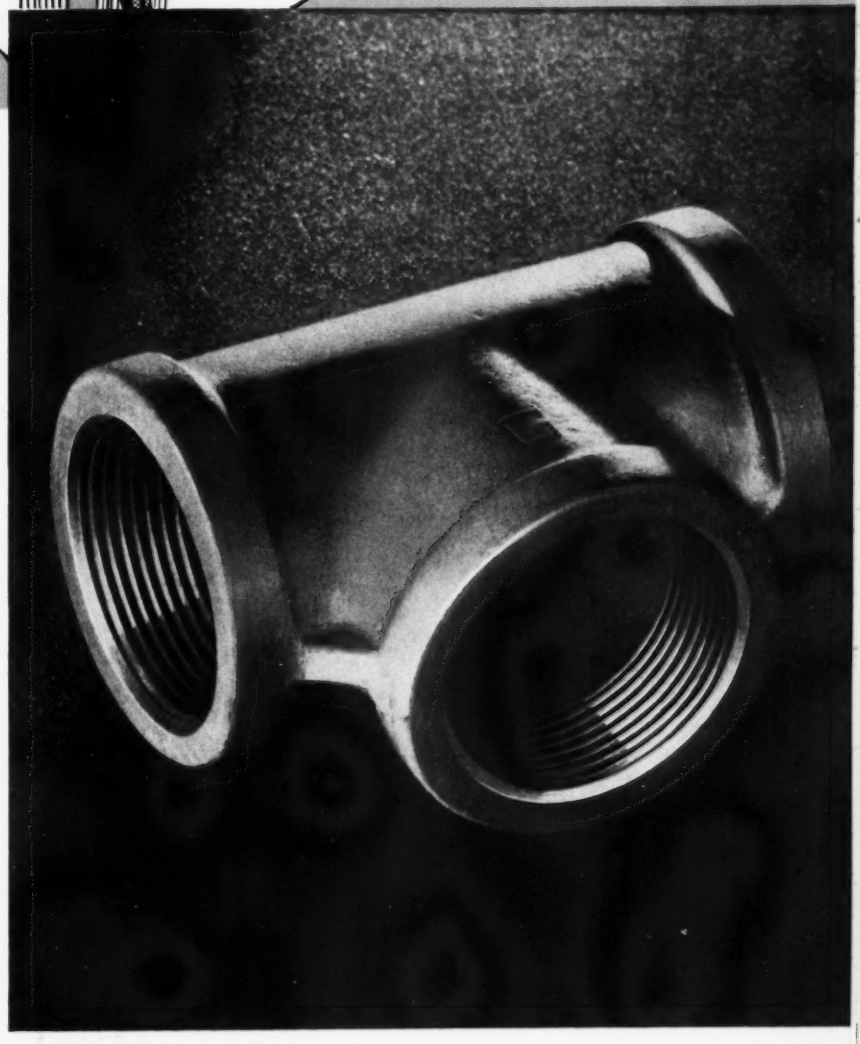
Simple, compact, one moving element, no wearing parts, no internal lubrication. Bulletin No. 203 gives the facts. Your copy is waiting.

THE NASH ENGINEERING COMPANY
SOUTH NORWALK, CONNECTICUT, U. S. A.

Are you going to SQUEEZE THROUGH?

ESTIMATES

COSTS



No need to let this suggestion haunt you!

Find out what's slowing up your mechanics . . . irritating them . . . costing you money . . . and you may discover that fittings are the culprits.

Square "GEE" Fittings and Unions can mean the difference between profit and loss. Their clean cut threads make work easier—smoother! The precision of Grabler manufacturing methods results in fittings that help jobs swing along at a pace that beats time schedules.

For your convenience, Grabler offers you 1937 Ready Reference List Price Tables on Square "GEE" Products. Write for your copy now.

Square "GEE" Fittings and Unions are right . . right for you, your journeymen, your customers! Order them by name from your wholesaler.

THE GRABLER MANUFACTURING COMPANY
6565 BROADWAY • CLEVELAND, OHIO
Warehouses: NEW YORK • CHICAGO • PHILADELPHIA
LOS ANGELES • SAN FRANCISCO • DENVER • DALLAS

THE SQUARE "GEE" LINE INCLUDES: STANDARD AND EXTRA HEAVY MALLEABLE FITTINGS • STANDARD AND GROUND JOINT UNIONS • RAIL FITTINGS • STANDARD CAST IRON STEAM AND DRAINAGE FITTINGS • PATENTED FITTINGS • STANDARD AND EXTRA HEAVY BRASS FITTINGS • BRASS UNIONS • STEEL AND BRASS NIPPLES • HANGERS • FLOOR AND CEILING PLATES • RAPIDSEAL COPPER TUBE SOLDER TYPE FITTINGS

SQUARE Pipe | **"GEE" Fittings**

MALLEABLE, CAST IRON | DRAINAGE, BRASS, COPPER

OBI

A New Sales Idea that will simplify your selling.

●

New Refinements in engineering and construction simplify your service.

●

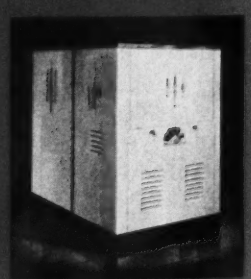
Increased Eye Appeal. Rugged Design. Proved Operating Economy.

●

ALL SIGNS point to fair weather for Wayne Dealers—with the new line of Wayne Weather Selectors—the "Mistoil" Burner, complete Wayne Boiler-Burner Units and Air Conditioning Systems. The new low priced air conditioner illustrated at right affords a new approach to the profitable mass market for small homes.

It's an air conditioning year. Get on the band wagon with the leaders and your success for 1937 is assured. For fifty years the name "Wayne" has meant quality in the public mind. You make more profit with less investment, too—only one size Wayne to carry in stock for all domestic installations. Learn more about it now.

WRITE TODAY FOR UNIQUE DEALER PLAN



NEW LOW PRICED AIR CONDITIONING UNIT FOR SMALL HOMES

WAYNE OIL BURNER CORPORATION, FORT WAYNE, IND.

She knows
EVERDUR* METAL

...and she knows it means rust-free hot water always!

MONTH in and month out, advertising of EVERDUR Metal tells the public why it is best for non-rust tanks.

This Anaconda alloy is rustless as copper...yet strong as steel. No wonder most all leading makers of automatic storage-type water heaters standardize on Everdur for non-rust tanks. And Everdur range boilers, too, are readily obtainable from usual sources of supply.

It will pay you to let your customers know you are headquarters for water heating equipment made of EVERDUR. Our advertising is constantly developing new prospects—cash in on this business!

"EverHot" Junior automatic gas water heater, made by the EverHot Heater Company, Detroit, Mich., is offered with rust-proof tank of all-welded Everdur Metal.

• • •

Cutaway view shows partial construction detail.

37143

ANACONDA

Everdur Metal

RUSTLESS AS COPPER
STRONG AS STEEL

THE AMERICAN BRASS COMPANY, General Offices: WATERBURY, CONNECTICUT

Offices and Agencies in Principal Cities • In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.

*EVERDUR is a trade-mark of The American Brass Company, registered in the United States Patent Office.

Now for every purse
for every purpose . . .

a PENBERTHY AUTOMATIC CELLAR DRAINER

(Water or Steam Operated)

PENBERTHY PRODUCTS

MODEL S
Made in 1 Size Only
Maximum Capacity
650 gallons per hour
Retail Price . . $14.50

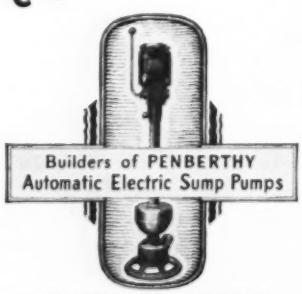
MODEL R
Made in 2 Sizes

	Max. Cap. gal. per hr.	Retail Price
1R	720	$25.00
2R	1240	40.00

MODEL L
Made in 3 Sizes

	Max. Cap. gal. per hr.	Retail Price
3L	1650	$55.00
4L	2400	80.00
5L	3200	110.00

COPPER AND BRONZE THROUGHOUT



ALL PRICES F. O. B. DETROIT

WHENEVER conditions or cost make it desirable to use a water (or steam) operated cellar drainer for the removal of seepage water, there is a Penberthy unit ideally suited to the job. The Model "S" Penberthy Automatic Cellar Drainer gives the plumbing contractor a unit that is "competitive" in price but decidedly superior in quality and performance. It enables the plumbing contractor to sell a superior product to the people who consider price alone—it means business that otherwise would go elsewhere.

Penberthy Automatic Cellar Drainers—like Penberthy Automatic Electric Sump Pumps—are carried in stock by jobbers everywhere.

PENBERTHY INJECTOR COMPANY
Manufacturers of Quality Products Since 1886
Canadian Plant: Windsor, Ontario **DETROIT, MICHIGAN**

PENBERTHY PUMPS REMOVE SEEPAGE WATER

Thanks:

"The kind of articles you carry make DOMESTIC ENGINEERING better than a text book."

K. A. M.,
Cornwall Bridge, Conn.

Between Ourselves

Ideas and Ideals . . . which make up . . . this Issue . . .

Why Is a Cover?

The policy which the editors of DOMESTIC ENGINEERING have adopted for themselves in regard to the front cover of each issue contains, among other items, the following requirements: it must be attractive; it should be representative of the character and ideals of the magazine itself; and it should present some aspect of the reader group to which the magazine is addressed. With this thought in mind, the covers of DOMESTIC ENGINEERING for the past several months have been designed to show a representative contractor-dealer engaged in some phase of his many sided activities. The average contractor-dealer does not merely sell and install but rather he does these things in addition to performing many other functions necessary for the proper control of his business.

This month's cover shows Thomas Hanley, Jr., N.A.M.P. director, busy in still another aspect of plumbing and heating work today—directing the engineering service rendered by his company. The photograph reproduced was taken in the drafting rooms of Mr. Hanley's office in Chicago.

Beyond all of this, these covers are for and of the contractor-dealer.

An Industry Sells Itself

When field representatives of DOMESTIC ENGINEERING go into a town, they study the local newspapers for items related to our industry and when they find such items they send them back to the editorial office. Such clippings are like straws which indicate the way public sentiment is blowing in regard to our industry. One of our representatives recently sent us a lengthy clipping from a southern newspaper which reported an interview with the head of a plumbing and heating company.

One point must be remembered: this was in the editorial columns of the paper and there were no visible indications that it was a paid advertisement. One excerpt from the interview read as follows: ". . . there is something else buyers like, the engineering service which gives them a detailed description of the installation. A drawing is tailor-made to fit the particular purchaser's problem. It shows the most economical and sanitary way to install the equipment needed. When some people get plumbing and heating estimates, they just get the cost of the fixtures, and the finished job costs them much more than they thought because the 'roughing in' materials often cost as much or more than the fixtures."

Without saying anything about the manner or effectiveness with which the sales argument was presented, the man interviewed and the company he represented are deserving of praise on at least one count. The story the company had to tell went right to the buying public and told the advantage of dealing with established and responsible plumbing and heating contractor-dealers.

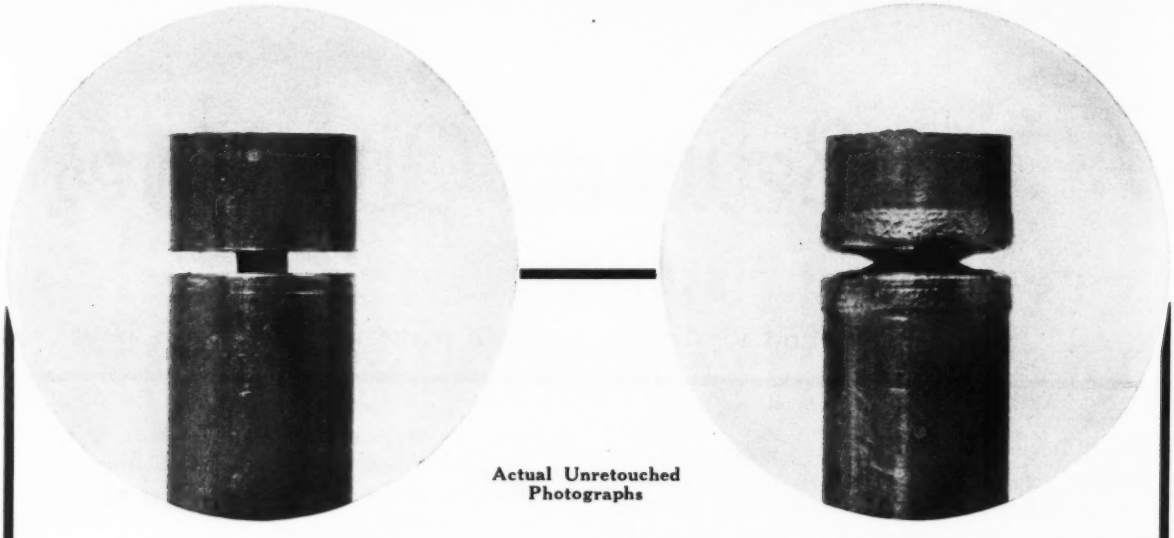
Every contractor-dealer has the opportunity of telling a similar story regarding the products and services he has to sell. The prepared news item which is featured each month in the Recognition section is designed for contractor-dealer's use and benefit.

Air Conditioning

Elsewhere in this issue is an account of an air conditioning installation made under rather unusual circumstances. The situation, roughly, was this—one office in an office building was to be air conditioned, yet conditions necessitated keeping all piping off the ceiling of the floor below and the story above the office. This article describes how the job was installed.

Difficulties of a like nature are perpetually encountered and must be met by the contractor-dealer today. Such an installation illustrates a present day trend. More and more people are demanding controlled climate in their homes and places of business. To do a complete job, DOMESTIC ENGINEERING must follow modern trends, hence this particular article. As a matter of fact, articles on air conditioning have appeared in each issue for several years past and will continue to appear in the future.

Your Editor



Actual Unretouched Photographs

THERE IS A DIFFERENCE BETWEEN CUTTING AND SQUEEZING

The bar on the left has been CUT with a four knife cutter. The bar on the right has been squeezed through with a wheel cutter. One has a heavy burr, the other a clean, smooth, square-end cut, so there is a difference—A VAST DIFFERENCE.

A "TOLEDO" No. 999 uses a four knife cutter as shown below. It cuts all kinds of pipe—steel, wrought or cast iron, brass and copper easily and smoothly and leaves no burr. 2″ pipe is cut off in 8 seconds with a "TOLEDO" No. 999 and threaded in 22 seconds. The "TOLEDO" No. 999, most popular of all small portable power pipe machines, will cut and thread ⅛″ to 2″ pipe and will turn out more work in a day's time, than any other small portable power pipe machine on the market. A post card will bring you complete information.

THE TOLEDO PIPE THREADING MACHINE CO.

TOLEDO, OHIO **NEW YORK OFFICE, 72 LAFAYETTE ST.**

"TOLEDO"

TRADE-MARK REGISTERED

OUR INDUSTRY

April, 1937

Washington—Off the Record

OFFICIAL Washington was interviewed several days ago by a group of publishers and editors of national business publications. There was a hurried breakfast at the Press Club where the day's program was outlined. A quick walk to the Department of Labor building took us to the office of the chief labor statistician. A fast cab ride then carried us to the Senate office building where we interviewed, in quick succession, Senators Vandenburg, Borah and Harrison. From there we were picked up by the underground monorail car and transported to the Capitol building, where we had lunch in the Speaker's dining room. Speaker Bankhead and Representatives Rayburn of New York and Lea of California talked to us between courses.

A reluctant adjournment and a quick trip to the State Department building took us to the office of Secretary of State Cordell Hull.

Next on the program was a call to the German Embassy for an interview with Ambassador Hans Luther, followed by a visit to the French Embassy and an interview with Ambassador Georges Bonnet.

A brief breathing spell at our respective hotels gave us a few minutes to prepare for a dinner, after which we were addressed by Dr. Goldenweiser, Economist for the Federal Reserve Board. Several additional speakers were present but by the time Denny Lewis, brother of John L. Lewis and officially known as Assistant to the President, C. I. O., finished talking and answering our questions, most of us had to hurry for midnight trains back to our respective cities.

The foregoing outlines briefly the ground which was covered. Statements by the officials and their answers to our questions were completely off the record, inasmuch as the purpose of the meeting was to introduce us to the background of current activities. While nothing will be found in these editorial columns in the form of direct quotations or indirect statements, the ideas and impressions gained through these contacts will be reflected in that composite editorial viewpoint which goes to make up each issue of DOMESTIC ENGINEERING.

This hurried and somewhat kaleidoscopic view of official Washington merely serves to supplement the almost daily reports of our Washington correspondent and the Washington contacts of your editor, both through correspondence and personal trips to Washington on specific business. More and more, official Washington is entering the life of every business in the country. An increasingly intelligent and comprehensive approach to the problems confronting business can only come through an increasingly better understanding of official Washington. [*See Pages 66 and 67*]

"WITH air conditioning goes humidification and air cleaning as well as air circulation and ventilation. These are important, it is true; but the most important element is the continuous uniformity of temperature in the room from the floor to the ceiling and from front to back so that the occupant can sit near a window without being chilled and without having his feet become cold."

This statement was made last week in Philadelphia at the annual convention of the Oil Burner Institute by one who often has been referred to as the father of air conditioning.

In continuing this discussion of the technical aspects of air conditioning, it was pointed out that the first requirement is the proper location of heat sources.

"The second important step—and one generally overlooked—" it was further stated, "is that this supply of heat must be continuous. It is an exceedingly crude job, indicating a total lack of engineering consideration, when we attempt to heat our houses with puffs of exceedingly hot air."

In conclusion, "It should be emphasized that it is only by the recognition of fundamental principles of heating that air conditioning can ever be wholly satisfactory in the home. Without a close observation of these principles, air conditioning will never be as good a method of heating as that obtained even with the old fashioned type of standing cast iron radiation."

All of this brings to mind again the basic advantages of radiator heating alone and the possibilities of radiator heating when combined with air conditioning. It will be recalled that these were summarized in the form of a campaign a year ago, the chief emphasis of which centered about the fact that 80 per cent of air conditioning is heating.

Going beyond this, the widely recognized authority quoted in the foregoing implies that 100 per cent of the benefits of air conditioning are obtainable through continuously uniform temperatures.

NEWS Briefs — Highlights of this

Oil Burner Exposition Held; Tenta-

Many Conventions Held

- *Month marked by annual conventions of state master plumber associations, semi-annual meeting of wholesale group and oil burner exposition*

March really continued the convention season for the plumbing and heating industry. In that month no less than five major conventions were held by all three branches of our industry. The Oil Burner and Air Conditioning Exposition held in Philadelphia attracted a large attendance from all over the country. The attendance there, naturally, was made up of representatives of manufacturers, wholesalers and contractor-dealer groups. The Wholesale Distributors Assn. of Texas met in their semi-annual meeting. Contractor-dealer meetings were represented by the three annual conventions of state master plumbers associations held during the month, Maine, New Hampshire and Kansas.

Supply

News of Men . . . Meetings . . . Companies . . .

Oil Burner

- *Commercial Museum in Philadelphia site of National Oil Burner and Air Conditioning Exposition, March 15 to 19*

The National Oil Burner and Air Conditioning Exposition was held at the Commercial Museum, Philadelphia, March 15-19. Registration was very large at the meeting; 4,600 contractor-dealers alone being present. Naturally, in addition to this number a large group of representatives of both manufacturers and wholesalers were in attendance. Charles N. Lockwood, general sales manager, NuWay Corp., was elected president at a meeting of the board of directors. New directors of the Oil Burner Institute were A. E. Knapp and J. A. Lattner. Directors who were reelected were J. H. O'Brien, J. H. Van Schuyler, Lawrence L. Knapp and S. C. Houghten.

Several other topics were discussed at the meetings including merchandising, taxation and legislation, marketing, manufacture, installation and distribution. The annual meeting of the associate membership group was held on the last day of the exposition. J. R. Murphy was chairman of this group and W. R. Rich was secretary. At the election for the coming year, Mr. Rich was made chairman and E. N. McDonnell was elected secretary.

Further details are to be found in the Supply section of this issue.

Wholesalers

- *Semi-annual meeting of Wholesale Distributors Assn. of Texas held in Waco, March 19-20*

The semi-annual meeting of the Wholesale Distributors Assn. of Texas was featured by the presentation of promotion plans on the sale of electric water systems. Herbert C. Angster, secretary-director of the Electric Water System Council, told of improved business conditions in his field today and pointed out the fact that 1936 was the best year in history for the production of water system units. Mr. Angster also told of the promotional plans for the continued sale of such systems under the sponsorship of his association.

Further details are to be found in the Supply section of this issue.

Trade

News of . . . Men . . . Associations . . . Events . . .

National Plans

- *Tentative program arranged for fifty-fifth annual N.A.M.P. convention in Atlantic City*

Recent releases from the national association have indicated that plans for the fifty-fifth annual convention have progressed rapidly. A tentative program has been prepared and except for a few possible minor changes undoubtedly will stand. Congressman Wright Patman, co-author of the Robinson-Patman Act, has been scheduled to speak at one of the sessions. One of the features of Congressman Patman's talk will be his answers to ten questions.

In an open letter President Werner has described the features of the convention and the exhibition. In this letter he gave further information on the giant display board which will illustrate the materials going into the installation of a bathroom. In conclusion President Werner urged everyone to attend the coming convention.

Further details are to be found in the Trade section of this issue.

Kansas

- *Legislation confronting contractor-dealers, a feature of annual convention of the Kansas Master Plumbers Assn.*

The forty-seventh annual convention of the Kansas Master Plumbers Assn., which was held at the Leon Hotel, Hutchinson, Kan., March 15 and 16, was featured by discussions devoted to state and national legislation which

Month's Happenings

NEWS Briefs

...tive Program Arranged for N. A. M. P.

confronts contractor-dealers. H. P. Dunaway, Wichita, president; K. W. Talbott, Pratt, vice president; Harry L. Stevens, Hutchinson, treasurer; and C. A. Preston, Wichita, secretary, were the officers elected. The board of directors of the association will be made up of the newly elected officers in addition to five zone vice presidents.

The Robinson-Patman Act, the state fair trade practice act and the Social Security Act were three of the topics discussed by the various speakers. H. O. Green, national director, spoke more along straight plumbing lines and, in so doing, touched upon the plumbing survey in Federal buildings.

Further details are to be found in the Trade section of this issue.

Maine Annual

- *Licensing urged at annual convention of Maine State Master Plumbers Assn.—E. R. Graham elected to presidency of group*

Featured by discussions on state wide plumbing problems, the annual convention of the Maine State Master Plumbers Assn. was held at the De Witt Hotel, Lewiston, Me., March 9. The slate of officers elected at the meeting was as follows: E. R. Graham, president, Bar Harbor; Wilbur F. Blake, vice president, Portland; J. H. Hennesey, treasurer, Augusta; and Irving M. Curtis, secretary, Auburn.

The principal step taken at the meeting was to empower the legislative committee to continue its efforts to secure a state wide plumbing licensing act. Provisions of the act which the association would like to see passed by the state legislature declare that master plumbers now in business would be exempt from the examination which any further master plumbers would have to pass before engaging in business.

Further details are to be found in the Trade section of this issue.

New Hampshire

- *Convention of New Hampshire State Master Plumbers Assn. held in Manchester, N. H., March 10*

Officers elected at the annual convention of the New Hampshire State Master Plumbers Assn., which was held at the Hotel Carpenter, Manchester, N. H., March 10 were as follows: Joseph L. Greenwood, Bristol, president; Orvel B. Peirce, Peterborough, vice president; and M. W. Morgan, Concord, secretary-treasurer. P. W. Donoghue, national director, was the principal speaker at the meeting and discussed activities of the national as his chief topic. Other speakers included: C. B. Nash, vice president, Standard Sanitary Mfg. Co.; Dr. Bourroughs, New Hampshire State Board of Health; and Robert Dick, Lead Industries Assn. Manufacturers' and wholesalers' representatives also attended the convention.

Further details are to be found in the Trade section of this issue.

Business

Increases Shown Heating Items Outstanding Horsepower Up

Another Gain

- *February brought another gain of more than 30 per cent to the plumbing and heating industry*

During February the plumbing and heating industry showed another gain of better than 30 per cent over last year.

The marked uptrend in industrial activity in recent months is making itself felt with large increases in the East and Middle West, with the New England section particularly outstanding. In February, this section showed an advance of 66 per cent over the same month of last year and the combined figure for the first two months shows a gain of 49 per cent over last year.

This upward trend seems destined to continue with no let-up throughout the year unless the strike situation becomes worse or metal prices advance too rapidly. At the moment, it appears that the strike situation is beginning to clear and no further major setback from this corner seems evident immediately. Metal prices, on the other hand, have advanced very sharply since last October. This means that corresponding advances must be made in the prices of plumbing and heating materials. If these metal prices continue upward at the same pace that has been set for the past four or five months, prices of plumbing and heating materials may be forced upward to such an extent that buying on the part of the public will be retarded.

Further details are to be found in the Business section of this issue.

Women

Conducted by Dorothy Edwards

Message

- *Lists of names and address of members requested by national secretary for national convention cards*

Mrs. Joseph J. Mueller, corresponding secretary of the national auxiliary, has sent a message to all auxiliaries urging them to forward complete membership lists and addresses so that the national can make out membership cards. Such cards will have to be presented at the national convention in order to receive auxiliary badges. A further bulletin on the subject will be released the latter part of April.

Further details are to be found in the Women section of this issue.

Cordell Hull, Secretary of State

William E. Borah, Senator from Idaho

A. H. Vandenberg, Senator from Michigan

William B. Bankhead, Speaker of the House

(See editorial on Page 63)

Samuel Rayburn, Congressman from New York

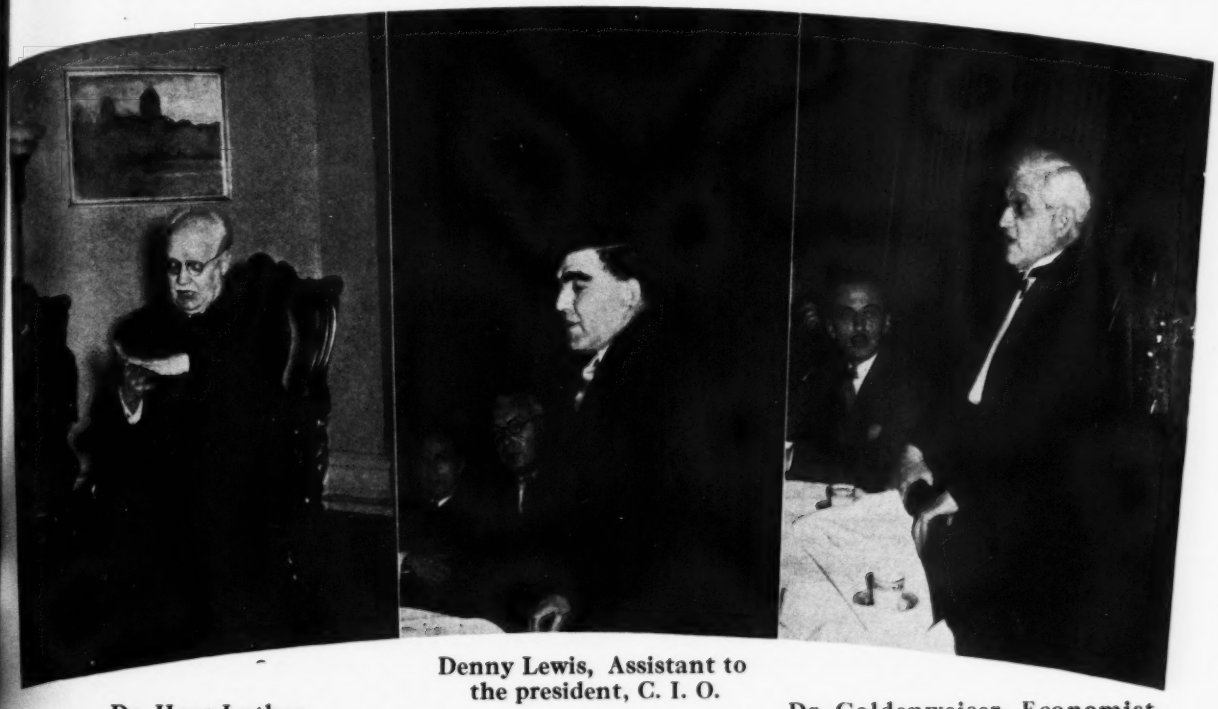
Clarence Lea, Congressman from California

Isador Lubin, Chief Labor Statistician

Extreme Right, Editor's 8:30 breakfast

Pat Harrison, Senator from Mississippi

Jules Henry, Consul; G. Bonnet, French Ambassador



Dr. Hans Luther, German Ambassador

Denny Lewis, Assistant to the president, C. I. O.

Dr. Goldenweiser, Economist, Board of Governors, Federal Reserve Board

Official WASHINGTON.....

R-P Hits Soil Pipe Mfgrs.

• *Federal Trade Commission files complaint which is first to affect a group in our industry—Birmingham Plus System is assailed*

The first complaint of the Federal Trade Commission under the Robinson-Patman Act, which touches our industry has been entered against manufacturers of cast iron soil pipe. The complaint alleges that 35 companies, producing and selling 90 per cent of the output of cast iron soil pipe in the United States, have, through use of the Birmingham Plus pricing system, substantially lessened price competition within their industry and discriminated in price among certain buyers of their products. The complaint charges violation of both the Federal Trade Commission Act and the Robinson-Patman Anti-Price Discrimination Act. It should be pointed out that the FTC is essentially a fact finding body and that the allegations contained in their complaint have yet to be proved. The following is a reproduction of the formal complaint.

Text of the Complaint

Pursuant to the provisions of an Act of Congress entitled, "An Act to Create a Federal Trade Commission, to define its powers and duties, and for other purposes," approved September 26, 1914, and commonly known as the Federal Trade Commission Act, the commission having reason to believe that the respondents herein named have violated the said act of Congress, and it appearing to the commission that a proceeding by it in respect thereof would be in the public interest, the commission hereby issues its complaint stating its charges in such respect in Count I hereof.

Also pursuant to the provisions of Section 2 of an Act of Congress, approved October 15, 1914, entitled, "An Act to supplement existing laws against unlawful restraints and monopolies, and for other purposes," commonly known as the Clayton Act, as amended by an Act of Congress approved June 19, 1936, commonly known as the Robinson-Patman Act, the commission having reason to believe that the respondents herein named have violated the said act of Congress, as so amended, and it appearing to the commission that a proceeding by it in respect thereof would be in the public interest, the commission issues this its complaint stating its charges in such respect in Count II hereof.

Count I

Paragraph One: The respondent, the Cast Iron Soil Pipe Association is a voluntary unincorporated Association, comprising corporate respondents . . . . . as its members, and having its principal place of business in the city of Birmingham, Alabama. The said respondent Association is hereinafter refered to as the "Association."

The president, vice president, treasurer and executive secretary of the association, are herein collectively referred to as "respondent officers."

The corporate respondents are collectively referred to herein as "producing respondents."

Paragraph Two: All of the producing respondents are engaged in the production of cast iron soil pipe, including a variety of fittings therefor, hereinafter sometimes referred to merely as "pipe;" certain of them also make and sell other products. The said respondents comprise more than three-fourths numerically of the producers of cast iron soil pipe in the country and produce more than 90 per cent of said pipe produced and sold in the country. In the sale and distribution of cast iron soil pipe producing respondents cause their pipe to be shipped and transported from the various points of its production in certain respective states, through and into other states of the United States. Respondents with foundries east of the Mississippi River sell over wide consuming areas, most of them quoting prices and on occasion making sales in the large consuming centers of New York, Pennsylvania and Ohio. Producing respondents are in competition among themselves, except in so far as their said competition has been hindered, lessened, restricted or restrained as in Paragraphs Four, Five, Six and Seven hereof set forth. There are other producers of cast iron soil pipe who, in the ordinary course of their business, seek the same customers that are sought by one or more of producing respondents. These producers, hereinafter referred to as "non-member producers," also cause their pipe to be shipped and transported from the various points of its production in certain respective states, through and into other states of the United States. They also are in competition among themselves and with producing respondents except in so far as their said compe-

Sales by Newark, N. J., Producer

	Newark N. J.	Boston Mass.	New York N. Y.	Philadelphia Pa.	Baltimore Md.
Base Price, Birmingham	$40.00	$40.00	$40.00	$40.00	$40.00
Freight from Birmingham	10.00	11.60	10.00	9.40	8.80
"Delivered Price"	50.00	51.60	50.00	49.40	48.80
Less freight to destination	...	4.90	2.00	3.20	4.30
Actual price received	50.00	46.70	48.00	46.20	44.50

Sales by Quakertown, Pa., Producer

	Quakertown Pa.	Boston Mass.	New York N. Y.	Philadelphia Pa.	Baltimore Md.
Base price, Birmingham	$40.00	$40.00	$40.00	$40.00	$40.00
Freight from Birmingham	9.60	11.60	10.00	9.40	8.80
"Delivered Price"	49.60	51.60	50.00	49.40	48.80
Less freight to destination	...	5.80	3.50	2.10	3.70
Actual price received	49.60	45.80	46.50	47.30	45.10

Sales by Vincennes, Ind., Producer

	Vincennes Ind.	Indianapolis Ind.	Chicago Ill.	St. Louis Mo.	Louisville Ky.
Base price, Birmingham	$40.00	$40.00	$40.00	$40.00	$40.00
Freight from Birmingham	6.40	7.20	8.00	6.80	6.20
"Delivered Price"	46.40	47.20	48.00	46.80	46.20
Less freight to destination	...	3.50	4.70	3.80	3.60
Actual price received	46.40	43.70	43.30	43.00	42.60

Sales by Medina, N. Y., Producer

	Medina N. Y.	Buffalo N. Y.	New York N. Y.	Albany N. Y.	Boston Mass.
Base price, Birmingham	$40.00	$40.00	$40.00	$40.00	$40.00
Freight from Birmingham	9.80	9.60	10.00	10.80	11.60
"Delivered Price"	49.80	49.60	50.00	50.80	51.60
Less freight to destination	...	2.10	6.20	5.00	6.60
Actual price received	49.80	47.50	43.80	45.80	45.00

Sales by Baltimore, Md., Producer

	Baltimore Md.	Washington D. C.	Philadelphia Pa.	New York N. Y.	Boston Mass.
Base price, Birmingham	$40.00	$40.00	$40.00	$40.00	$40.00
Freight from Birmingham	8.80	8.60	9.40	10.00	11.60
"Delivered Price"	48.80	48.60	49.40	50.00	51.60
Less freight to destination	...	2.00	2.30	4.30	6.60
Actual price received	48.80	46.60	47.10	45.70	45.00

Additional men who were met in interviewing official Washington

Left, Lloyd George, a member of the National Resources Board

Center, Joel David Wolfsohn, executive secretary, National Power Policy Committee

Right, Kenneth Stillman, senior business consultant for the Social Security Board

tition has been hindered, lessened, restricted or restrained by their adherence to, concurrence in, or adoption of the methods in Paragraphs Four to Eight inclusive hereof described. The Association and respondent officers are not engaged in commerce but are engaged in unfair methods, as described in said enumerated Paragraphs, which directly affect competition among producing respondents and also directly affect competition among them and non-member producers, all of whom are engaged in the sale of cast iron soil pipe among the states as in this Paragraph described.

Paragraph Three: The chief raw materials required for cast iron soil pipe are pig iron, scrap iron and coke. Pig iron and coke are produced in, and scrap iron is procured from, widely separated parts of the country. Said pipe is a foundry product and is produced in widely separated parts of the country. The average annual production thereof is between 400,000 and 500,000 tons. It is a standard commodity made in standardized specifications not differing substantially among producers in quality nor customarily offered for sale or sold upon the basis of quality. The cast iron soil pipe industry belongs to the class known as heavy goods industries; and the cost of delivery of pipe to points not in the vicinity of the respective points of production generally constitutes a substantial element of the cost of the pipe laid down at destination. A great preponderance of pipe is shipped in carload lots. Said pipe is used chiefly for plumbing and the disposition of waste, for purposes frequently referred to as sanitary. Purchasers consist chiefly of contracting plumbers and of wholesalers and warehousemen from whom also plumbers and builders frequently secure supplies.

Paragraph Four: The respondents or their predecessors entered into and put into effect, and respondents for over ten years last past have continued and now have in effect a combination among themselves to hinder, lessen, restrict and restrain competition, and particularly competition in price, among producing respondents in the course of their aforesaid commerce among the states in cast iron soil pipe. The said combination is made effective by understanding or agreement to employ, and the actual employment of, the methods and practices set forth in Paragraphs Five to Eight inclusive of this Count I.

Paragraph Five: (a) In pursuance of the combination alleged in Paragraph Four hereof, respondents or their predecessors adopted and inaugurated, and respondents have pursued, at most times during the last ten years and with respect to the major part of their business, a system of pricing often referred to as a single basing point system. Under the said system, to the extent that the same is followed, all pipe wherever produced, is sold at delivered prices based on Birmingham, Alabama, as the industry's sole basing point for calculating delivered prices for destinations throughout most, if not all, of the United States. Delivered prices as charged under said system by producing respondents at any given destination, as more specifically appears in sub-paragraph Five (b) below, approximate the base price at Birmingham plus the rate of freight from Birmingham to any such destination.

(b) The precise formula used for the said system, for carload shipments, is as follows: Respondents have arbitrarily postulated $100 per ton as a point of departure for calculating their delivered prices. From this figure is deducted a basic discount at Birmingham, for example 60%, which would result in a base price at Birmingham of $40. This basic discount however, as to customers located elsewhere than at Birmingham, as increasing distances from Birmingham are reflected in increasing freight rates, is reduced ¼ of one per cent for every 25c difference in net ton of such increased freight rates from Birmingham, which are quoted in cents per ton. This results in a delivered price equivalent to the base price at Birmingham plus the rate of freight from Birmingham to the buyer's freight station. Actual freight charges are either prepaid by producer or, if shipment is sent collect, are charged by buyer to producer. From delivered prices so derived are deducted trade discounts which vary for different classes of buyers, but are uniform to buyers of the same class, as a result of respondents' combination alleged in Paragraph Four hereof. Typical trade discounts are 10, 10 and 5 to wholesale buyers. The system as described in this sub-paragraph (b) applies generally also to less than carload shipments, as to which however, the discounts allowed are not so large. The system of pricing, in this sub-paragraph Five (b) described, is hereinafter referred to as the "Birmingham Plus system," and the prices made thereunder as "Birmingham Plus prices."

(c) For example, it will be assumed that a Chicago wholesaler is buying in carload quantities extra heavy four-inch pipe (the size more commonly sold than all others combined) and that the basic discount is 60 per cent. Using the said postulate of $100, the 60 per cent discount results in a *base price* at Birmingham of $40.00. The rate of freight from Birmingham to Chicago on cast iron soil pipe being

(Continued on Page 172)

A NEW DRESS.....

Here is new presentation of an idea which has made sales history

What It Is . . . With the beginning of 1937 DOMESTIC ENGINEERING started a new and timely reader service—a new idea each month for contractor-dealers' window displays. Each month's idea is the result of careful planning and research on the part of one of the country's foremost merchandisers of window displays. DOMESTIC ENGINEERING works in close collaboration with this group of experts and the results of this combined effort is a planned, pointed window display each month, capitalizing on, and designed for plumbing and heating contractor-dealers' business.

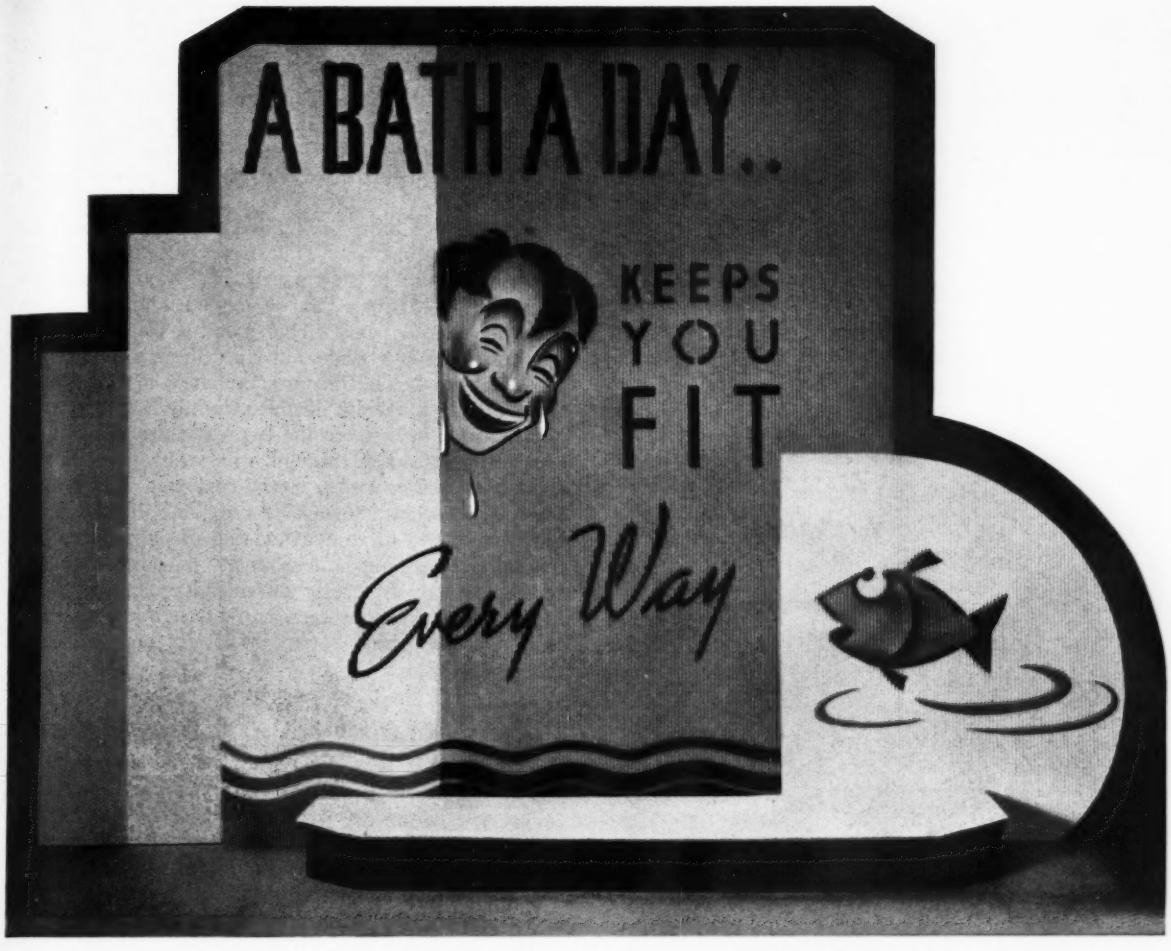
The display described in this issue is for the month of May. Like previous displays it is presented a month in advance so that readers will have ample opportunity to derive full value from it. While it has been said that this is a monthly service, readers who already have taken advantage of it have learned that the displays in the series are not limited in value to one month, or to one season, for that matter. The Lincoln display, while presented for the month of February, has proved to be a business builder that knows no season, but rather, has been of equal value in succeeding months. The display described this month is of the same nature.

The May Display . . . A popular old slogan that has improved in efficiency through the years is the keynote for this month's display. "A Bath a Day Keeps You Fit Every Way," is a slogan that has been building business for contractor-dealers for over fifteen years. The inherent sales appeal in that slogan has been incorporated in modern dress, given a touch of color and is ready to go to work again in a new field, that of window displays.

The display presented this month undoubtedly is the most colorful in the series so far. Seven colors have an eye-catching value which means extra business. The colors used are light, spring shades which tie-in with the season. At the top of the display are the words, "A Bath a Day." These are printed in dark blue on a white and light blue background. The central panel of the display has a white panel along the left hand side. From behind this appears the head of a gentleman that very evidently has just finished taking a bath which has refreshed him greatly. The head projects out on the light blue portion of the background. Immediately opposite the head is the phrase, "Keeps You Fit." Then across the bottom of the panel is the rest of the slogan, "Every Way." These last two words are reproduced in red. A symbolical representation of water is given by wavy lines in light and dark blue beneath the slogan.

To the left of the white panel are two smaller, flanking panels in yellow and light blue. At the right, the central panel is rounded out by another yellow panel upon which a fish appears. Although from the looks of things this poor fish is out of water, he looks quite as contented as the man who has just finished his bath. This probably is due to the fact that the fish knows he is out of water

One of the displays as it appears in the show window of Johnson and Wilk. As can be seen from the picture the table base adapts itself well to the display of products



The newest display in the series. While shown here only in two colors, the display actually has seven

only to echo the sentiment that "A Bath a Day Keeps You Fit Every Way."

Construction of this display is similar to previous ones in the series. The material used is corrugated board. A table base of the same material, which can be used as a display space for small plumbing accessories is supplied also. Like all the others in the series, this display can be erected in a few moment's time. Elsewhere in the article is a chart giving detailed instructions on how this is done.

What Users Have to Say . . . Although these displays have been available only since January of this year, they have been evaluated under actual conditions by a large number of contractor-dealers in all parts of the country. This article presents two pictures which show how the displays are being used. Johnson and Wilk, plumbing and heating contractor-dealers of Kalamazoo, Mich., always have taken great interest in the subject of window displays. Their displays have been outstanding as evidenced by the fact that one of their displays recently was awarded a cash prize for being the best in Kalamazoo and also won second prize in a statewide contest. A window display in this firm's store is shown in this article. In commenting upon the February or Lincoln display, W. A. Johnson had this to say: "The 'Lincoln' window made a very attractive display and we received many nice compliments on it." He then went on to stress the importance of having a window display which is able to catch and hold attention.

J. Lawrence DeNeille of the Eichler Heating Co., St. Louis, past president of the Heating, Piping and Air Conditioning Contractors National Assn., in ordering the same display, showed that this series of displays is not limited in sales appeal to plumbing or to heating, but is equally applicable to both. As a picture of the Eichler company's showroom reveals, the February display is not the only one of the displays which is of value to both plumbing and heating contractor-dealers. The fact that both the February and March displays were doing

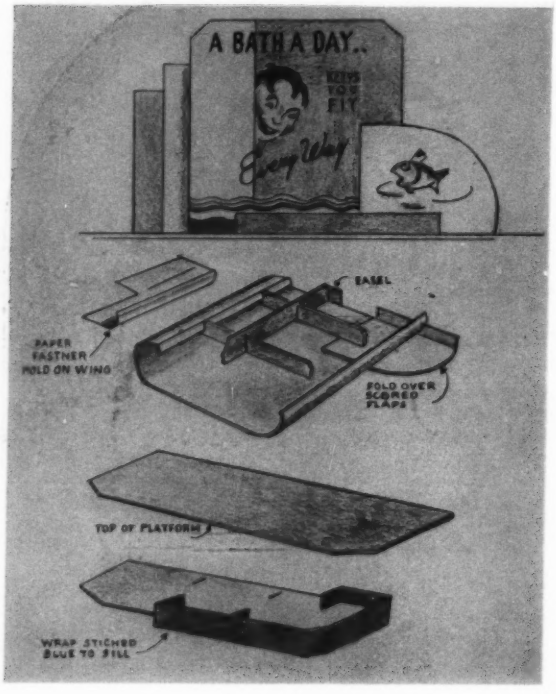
How to Get It . . . Address your inquiry or order on this or previous displays in the series to The Editor, DOMESTIC ENGINEERING, 1900 Prairie Ave., Chicago. The display for May costs $4.75 complete, ready to be installed in your show window. This price includes mailing charges. It should be understood that the cost of these displays has been set by the manufacturer. DOMESTIC ENGINEERING is not connected in any way with this company.

service simultaneously, as can be seen from a photograph elsewhere in the article, proves another point about the series. The individual displays have value for more than one month. The story they tell is so basic that they can be used month after month throughout the year with equally valuable results.

Where It Can Be Used . . . Previous articles have pointed out that these displays can be taken out of the show window, once they have served their purpose there, and then used for a month or more longer as part of the display background in the showroom itself. Following this practice continues the sales story started by the show window display into the showroom. This means also that a standardized advertising presentation is adopted.

The displays have been sized to fit both large and small show windows. This has been made possible through the use of side panels. When the window is large, the side panels can be extended almost parallel with the central panel. This month's display when in that position is 6 ft. wide, but when the window is small, the panel can be bent at an acute angle or removed entirely cutting the width down to slightly less than 5 ft or any measure in between the two extremes.

Securing pusiness through window displays is quite similar to fishing, with potential customers in the role of the fish, the contractor-dealer using the display playing the part of the fisherman and the display, itself, being the bait. In fishing for customers, however, it must be remembered that there is a tremendous amount of bait in the pool. Every store window is fighting for the attention of passersby, hoping to attract them and bring them inside.



Purposes of Display . . . Consequently, a window display to be a sales asset must be not only especially attractive, but also must be based on principles of sound selling psychology. The average pedestrian covers approximately 9 ft. every second at normal walking speed. Thus, in less than one second a display must catch attention or lose a potential customer. All the displays in this series are designed to do that very thing. Research has shown that pedestrians will not stop to read any amount of copy, therefore it has been kept to a minimum in all the displays. One attention is caught, the pedestrian must be compelled to think if he is to be made sales minded. For that reason, this display like all others in the series, says little, implies much.

Color is one of the main methods by which attention can be caught, but while the wrong selection of color can catch attention it also can cause it to wander. Naturally these displays make intelligent use of colors which time has shown to be most appealing.

Above, at the left, is an installation diagram. Immediately at the left is double barreled sales appeal in the show windows of the Eichler Heating Co.

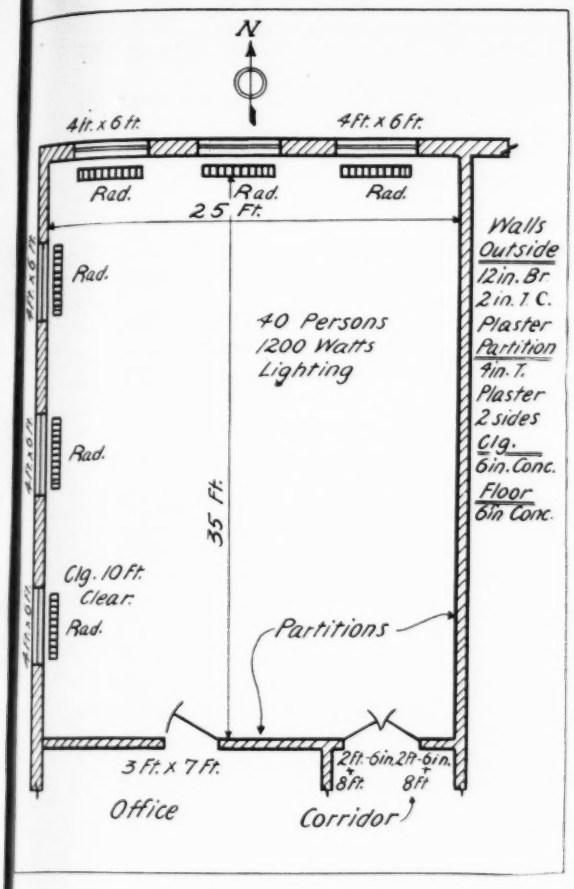


Fig. 1—Here is the office as it was arranged before summer air conditioning was installed

Factors to be considered in estimating and installation of summer air conditioning are discussed in answer to question

How Much Cooling....

HOW much cooling is necessary for an air conditioning job when the installation is to be made in a building already constructed? How may the job be estimated and what are the typical difficulties likely to be encountered in the construction work? The following is an analysis of just such an installation, discussing the nature of the work encountered, the manner in which it was figured and the way in which the job was actually installed. This air conditioning installation presented a condition which consisted of a second floor office in which some 40 persons were employed and where the heating was supplied by steam radiators on the general building heating risers. This office had several other floors above, which were rented to other occupants of the building and the floor below—that is the first or ground floor—was used for store purposes and was leased to the store proprietors; this necessitated keeping all piping off the ceiling below; nor could any piping be carried around in the story over the office. It was thought, however, that permission could be obtained from the store proprietor to run piping up through his store from the basement to the second floor if these lines were kept in an inconspicuous corner and did not occupy too much space. The plan of the office is as shown in Fig. 1, the walls being constructed of 12 in. brick with 2 in. terra cotta furring and plaster while the partitions were 4 in. tile plastered on both sides and the floor and ceiling 6 in.

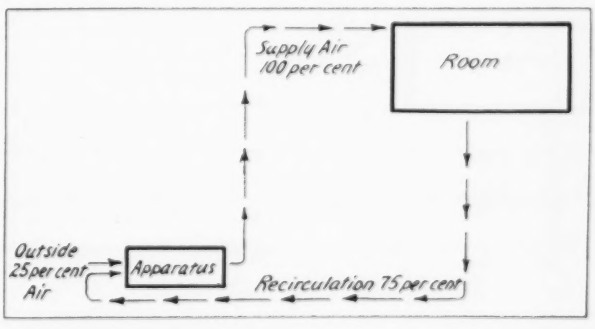


Fig. 2—This diagram indicates the manner in which outside air was introduced and mixed with the recirculated air

concrete which was finished with a painted surface.

The first thing to do in a case of this kind is roughly to ascertain the size of equipment so that an intelligent consideration may be given to various possibilities for equipment location. In order to do this it is necessary to compute the amount of heat entering through the walls, glass, ceiling and floor and add to this the amount of heat generated in the room by the lights, occupants, and other heat gains, to which is added the sun effect to find the maximum Btu. to be removed on a hot summer day—this installation being for summer air conditioning only.

For the purpose of computing the heat gain in the room certain standards of calculation will be used; these consist of assuming that the maximum outside temperature will be at 95 deg. Fahr. with 50 per cent relative humidity; that the room is to be held 15 degrees below the outside, and not to exceed 50 per cent relative humidity in the room, which means a maximum room temperature of 80 deg. Fahr.; that the supply air will be sufficiently in excess of the return circulation to prevent inward leakage or infiltration; also that the system will be run more or less constantly during times of extreme outside temperature. The wall, glass, ceiling and floor heat gain will be considered first.

The transmission of heat through the outside wall will be the number of Btu. transmitted through the wall per square foot per hour for 1 degree difference between the inside and outside temperatures times the number of degrees difference to be maintained (or, in this case, 15 degrees difference) and the glass, partitions, ceiling and floor are computed in the same manner. Thus, if the coefficient for the outside wall is 0.227, then with 15 degrees difference the wall transmission becomes

$$0.227 \times 15 \text{ degrees or } 3.4 \text{ Btu.}$$

while, if the glass coefficient is 1.1 Btu. the glass transmission becomes

$$1.1 \times 15 \text{ degrees or } 17 \text{ Btu.}$$

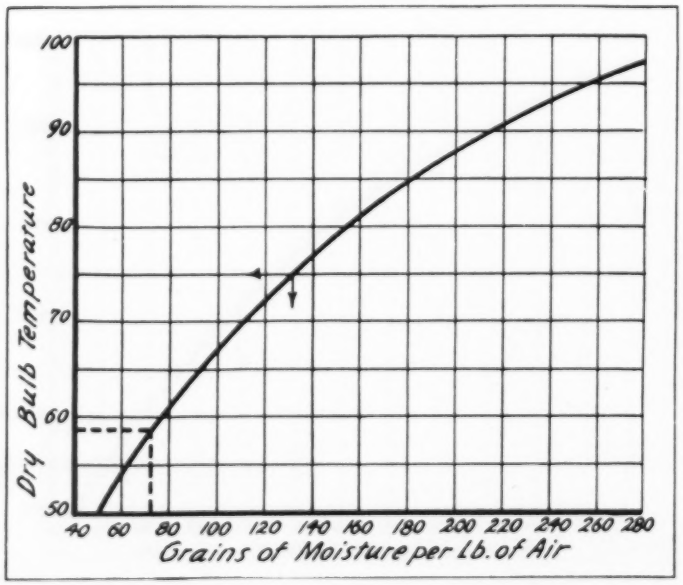
the partitions with a coefficient of 0.40 result in

$$0.40 \times 15 \text{ degrees or } 6 \text{ Btu.}$$

and the ceiling and floor with a coefficient of 0.50 Btu. give

$$0.50 \times 15 \text{ degrees or } 7.5 \text{ Btu.}$$

all doors will be considered as glass.



The heat gain through the six sides of the room may now be calculated on the basis of area of each kind of material in sq. ft. multiplied by the heat gain per sq. ft. of that material and results in the following:

N. Wall

25 ft. × 10 ft... 250 sq. ft. gross wall
4 ft. × 6 ft. × 3.72 sq. ft. glass × 17 Btu.... 1,224 Btu.

178 sq. ft. net wall × 3.4..... 605 Btu.

Total for N. Wall..... 1,829 Btu.

E. Partition

35 ft. × 10 ft...350 sq. ft. gross part.
0 ft. × 0 ft...000 sq. ft. glass

350 sq. ft. net part. × 6.0 Btu. 2,100 Btu.

Total for E. Partition..... 2,100 Btu.

S. Partition

25 ft. × 10 ft...250 sq. ft. gross part.
3 ft. × 7 ft.
2½ ft. × 8 ft. × 2
21 sq. ft. / 40 sq. ft. .....61 sq. ft. glass × 17 Btu..... 1,037 Btu.

189 sq. ft. net part. × 6 Btu... 1,134 Btu.

Total for S. Partition..... 2,171 Btu.

W. Wall

35 ft. × 10 ft.... 350 sq. ft. gross wall
4 ft. × 6 ft. × 3.72 sq. ft. glass × 17 Btu.. 1,224 Btu.

278 sq. ft. net wall × 3.4 Btu. 945 Btu.

Total for W. Wall..... 2,169 Btu.

Total for four sides of room..... 8,269 Btu.

Note: No exposure addition is used in the above as sun effect takes the place of exposure in cooling calculations.

Ceiling

25 ft. × 35 ft...875 sq. ft. × 7.5 Btu..... 6,562 Btu.

Floor

25 ft. × 35 ft...875 sq. ft. × 7.5 Btu..... 6,562 Btu.

Total for six sides of the room..... 21,393 Btu.
Infiltration ..... none

The sun effect and the electrical heat must be calculated separately and the larger amount taken if the lights are not used when the sun is shining; if both heat productions exist at the same time then the sum of the two heat productions must be added. In this case it is found that approximately half of the lights may be in use when the sun is shining so that the electric heat will be computed to obtain the dark day and night electric heat, the sun effect will be computed to obtain the amount of sun heat and the combination of half of the electric

Fig. 3—This curve shows the number of grains of moisture in the air when saturated at temperatures as given

load and all of the sun heat will be considered as the worst case.

The sun effect will exist only on the west side and will approximate 50 Btu. on each sq. ft. of window area; owing to rooms above there will be no sun effect on the top of the room; the sun cannot shine on the north side and other rooms protect this office on the east and south so the sun effect on the west side is the only one that will be encountered. This amounts to

72 sq. ft. × 50 Btu. or.....3,600 Btu.

and, as each watt of electric current generates 3.4 Btu. of heat the electric load with all of the light on will be

1,200 watts × 3.4 Btu. or.....4,080 Btu.

while the sun effect plus one-half of the lights will amount to

3,600 Btu. plus 2,040 Btu. or...5,640 Btu.

As the last one of the three calculations is the largest this will be used to represent the combined sun effect and electricity or

Sun Effect and Electricity.....5,640 Btu.

There now remains the amount of sensible heat produced by the 40 occupants; under a dry bulb temperature of 80 deg. Fahr., which has been assumed as the maximum that will be reached in the room, the amount of sensible heat given off by the average person is 215 Btu. per hour while the amount of latent heat in the shape of moisture amounts to 175 Btu., an amount which will be used later in connection with the refrigeration load. Thus the body heat which will add to the heat in the room is

215 Btu. × 40 persons or.....8,600 Btu.

while the 175 Btu. added by each person in the shape of moisture goes to increase the humidity in the room and must be removed by the refrigeration equipment as will be described later. The total heat gain in the room now may be summarized as

From Six Sides of Room.....	21,393 Btu.
Sun Effect and Electricity....	5,640 Btu.
Body Heat	8,600 Btu.
Total Sensible Heat to be Removed	35,633 Btu. per hr.

The problem now boils down to how much air is required to remove all of the sensible heat gain in the room so as to hold the room at a temperature of 15 degrees below the outside. In the first place the quantity of air is determined by the temperature below the room at which the air is admitted; usually 15 degrees below the room temperature is considered about all that is safe if cold draughts are to be eliminated. If 15 degree air (below the room temperature) is considered here the amount of heat which each cubic foot of air will require in rising up to the room temperature of 80 deg. Fahr. will depend on the amount of heat required to raise a cubic foot of air 15 degrees. Now 1 Btu. will raise approximately 55 cubic feet of air 1 degree when the air temperature is around 70 deg. Fahr. or in other words—1 cubic foot of air rising 1 degree in temperature requires about 1/55th of a Btu. Consequently in rising 15 degrees it will require 15/55ths of a Btu., which reduced to a decimal is 0.272 Btu. per cubic foot. Ordinarily, for the sake of even figures, this is called 0.25 Btu. which results in each Btu. to be removed per hr., requiring

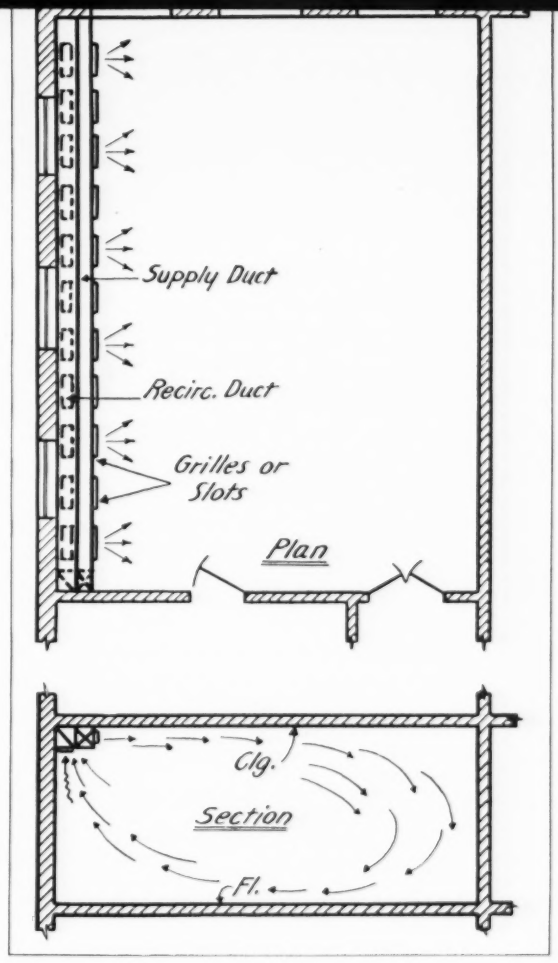


Fig. 4—The actual manner in which the ducts were installed and the way in which the air was circulated is indicated here

1 Btu./0.25 Btu. or 4 cu. ft. of air.

In the office in question there are some 35,633 Btu. to be removed every hour under the worst condition and the quantity of air required, therefore, will be

35,633 × 4 cu. ft. or 142,532 c.f.h.

to which some 10 per cent should be added for contingencies, making a total of

142,532 plus 10 per cent of 142,532 or 156,785 c.f.h.

which is

156,785/60 min. or 2,613 c.f.m.

and for even figures this will be called 2,600 c.f.m.

The recirculation air will not be as much as the supply air since some fresh air must be added to the room to prevent building up odors, the usual amount being about 25 per cent of the total supply; if 25 per cent of the supply air is outside air, it follows that the return circulation air must be

100 per cent—25 per cent or 75 per cent

and so the recirculated air will amount to

2,600 c.f.m. × 75 per cent or 1,950 c.f.m.

which for the sake of even figures will be taken as 2,000 c.f.m.

The foregoing calculations will serve to determine the capacity of the fan, fan motor, air washer, filters, etc. The refrigeration plant capacity still has to be determined; this plant must have the capacity to cool the air to the desired temperature, to dehumidify the air to the desired degree and to take any losses which may occur

between the refrigeration plant and the room. It will be assumed in this case that there is no well water to be considered and that the city supply is too warm in summer to serve for cooling purposes.

Now it is desirable to change the air quantity into pounds per hour to facilitate the ease of calculation and as there are 13.3 cu. ft. to a pound of air at, or around, 70 deg. Fahr. the number of pounds of supply air per hour will be

156,785 cu. ft./13.3 cu. ft. or 11,783 lb.,

and the return circulation air will amount to 75 per cent of this or

11,783 lb. × 75 per cent or 8,837 lbs.,

while the outside air will be 25 per cent of the supply air or 11,783 lb. × 25 per cent or 2,946 lb.

This gives a system arrangement as shown diagrammatically in Fig. 2 where 25 per cent of outside air uniting with 75 per cent of return circulation air results in 100 per cent of supply air.

As the dehumidifying affects the refrigeration load let the humidity conditions now be considered. Saturated air is air containing all of the moisture which it can carry at its temperature and the relative humidity under this condition is 100 per cent; *absolute* humidity is the weight of the water vapor actually in the air and usually is expressed in grains of moisture per pound of air a grain being 1/7,000 of a pound. Tables for the properties of air show that at varying temperatures air can contain the following amounts of water vapor expressed in grains per pound of air.

From this a curve may be constructed showing the number of grains of moisture in the air when saturated at any intermediate temperature between the temperatures given—see Fig. 3. With various percentages of relative humidity it is sufficiently accurate to say that the percentages represent the per cent of saturation of the air which the actual moisture reaches and that the per

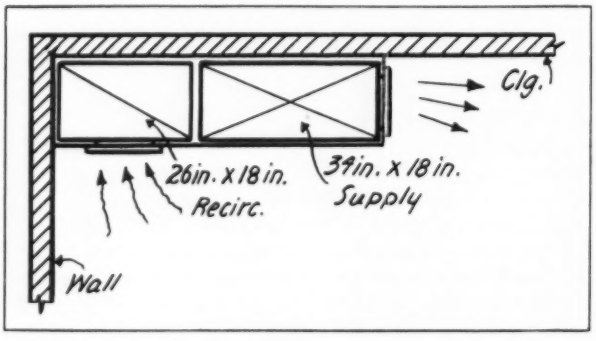


Fig. 5—Detail of ducts showing installation of supply and return grilles

cent of relative humidity is the actual number of grains in the air divided by the number of grains when saturated at the same temperature.

Thus, 80 deg. Fahr. air which has 77.9 grains per lb. will have a relative humidity of approximately

77.9 gr./155.8 gr. or 0.50, which is 50 per cent,

and 95 deg. Fahr. air, which has 64.1 grains per pound, will have a relative humidity of approximately

64.1 gr./256.3 gr. or 0.25, which is 25 per cent.

When the air is saturated, or has a relative humidity of 100 per cent, any farther reduction in the air temperature will result in part of the moisture being precipitated; for example, if air at 95 deg. Fahr. and 100 per cent relative humidity contains 256.3 gr. per lb., and if the temperature of this air is reduced to 80 deg. Fahr. this air can contain only 155.8 gr. per lb., and the difference or

256.3 gr.
155.8 gr.
100.5 gr.

will be squeezed out of the air.

Under the basic conditions set up in this case the outside air under the maximum condition was presumed to enter at 95 deg. Fahr. and 50 per cent relative humidity, which means that the number of grains per pound of the outside air will be

256.3 gr. × 0.50 or 128.1 gr. per lb.

while the air in the room is to be maintained under this outside temperature at 80 deg. Fahr. and 50 per cent relative humidity or

155.8 gr. × 0.50 or 77.9 gr. per lb.

Therefore, the return circulation air will have 77.9 gr. per lb. It now only remains to determine the absolute humidity or grains per pound in the supply air.

It previously has been stated that the latent heat (or moisture) given off by occupants in a room at 80 deg. Fahr. and with the occupants in a moderate state of activity (not doing hard manual work for instance) averages about 175 Btu. per occupant per hour, and as the latent heat in a pound of water, evaporating under

TABLE I

Grains of Moisture per Pound of Air When Saturated.

Temperature deg. Fahr.	Grains per Pound
95	256.3
80	155.8
65	92.6
60	77.3
55	64.4
50	53.5

atmospheric pressure, is around 1,000 Btu., it follows that each occupant is giving off

175 Btu./1,000 Btu. or 0.175 lb. of moisture per hour.

This may be changed to grains by multiplying by 7,000 grains to the pound or

0.175 lb. × 7,000 gr. or 1,225 gr. per hr.

and 40 occupants will emit

1,225 gr. × 40 or 49,000 gr. per hr.

It has been previously determined that 11,783 lb. of air will have to be supplied to the room every hour in order to remove the heat and the number of grains added to each pound of air after it has entered the room thereafter will be

49,000 gr./11,783 lb. or 4.1 gr. per lb. added

and if it is desired to maintain the air in the room at 80 deg. Fahr. and 50 per cent relative humidity (or 77.9

(Continued on Page 181)

Fig. 1—At the right are under floor waste lines of lead. This is one indication of the changing concept of leadwork over that of many years ago

Fig. 2—At the left is another example of how leadwork is installed. This and other pictures in this article were gathered by one of the editors of DOMESTIC ENGINEERING on a recent trip to Texas

LEADWORK . . . . .

Present trend towards revision of plumbing codes has in many cases increased importance of leadwork

As the country has emerged from the depression, plumbing codes have been revised in considerable number, and in many such revisions there have been included certain leadwork requirements. In other instances lead work is being required under bathroom floors, for under-floor kitchen plumbing, etc.

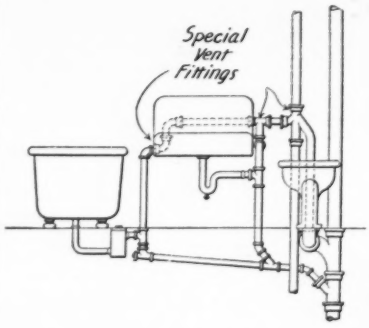
Even if the requirement goes no further than an elementary stage it puts something of a burden on the handyman.

When we speak today of leadwork, we certainly are not using the term to express the same thing that was called leadwork many years ago. What we mean today by leadwork is reduced to such work as that shown in the photograph at the top of page 79. Here the underfloor waste lines for a bathroom are of lead.

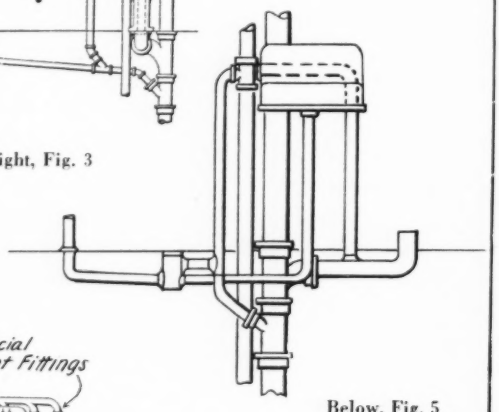
We want to speak now about the merits of the bathroom connections shown in this illustration and of other similar work.

This picture shows an old job pulled out and replaced with new and better work.

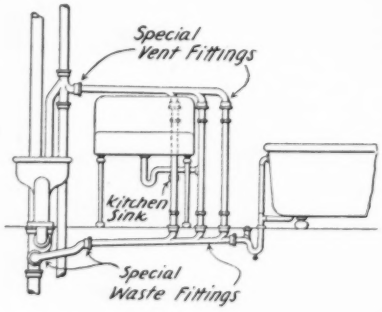
The point of special interest in this illustration is the comparison of the two methods of bringing the two fixture wastes into the lead bend. In the old work, the two branches entered on opposite sides of the horizontal



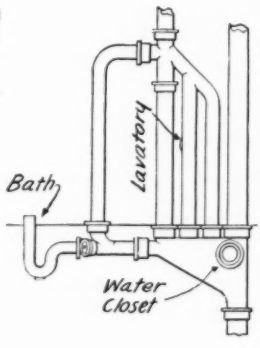
Left, Fig. 2



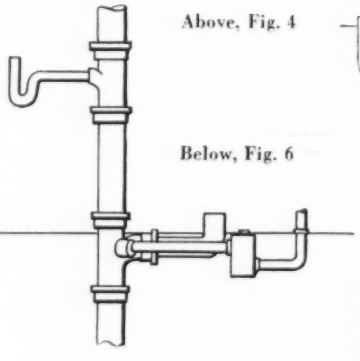
Right, Fig. 3



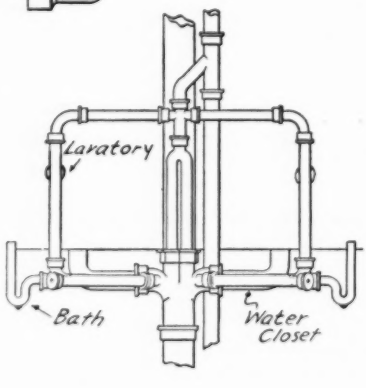
Below, Fig. 5



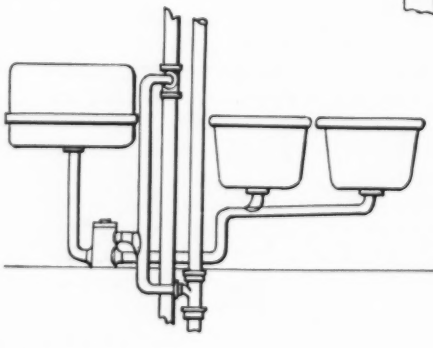
Above, Fig. 4



Below, Fig. 6



Right, Fig. 7



Above, Fig. 8

part of the bend. The worst thing about this is the fact that they open into the bend at points opposite each other, and this means that waste from one can rush into the opening of the other. It needs no argument that this is not a sanitary method.

It seems that a new code provision prevents branching into a lead bend, as done in the old work, and calls for the work to be done as in the newly constructed work. Here only one branch can enter the horizontal section of the bend, the other branch entering the vertical section. In the picture the floor joist conceals the latter connection. Certainly the newer method is preferable.

Connection of a branch waste into the heel of the bend has always been considered particularly bad practice, and is prohibited by many plumbing codes. The chief objection to branch entrances into lead bends is that branches into lead bends are often rough on the inside, tending to catch obstructing materials passing through. In the making of wiped joints onto lead bends therefore, the greatest care should be taken to prevent solder protruding into the inside of the bend.

The sharper the branch connects into the lead bend, the better the direction given to waste entering the bend. The only point we see to criticise in the new work in the photograph at the top of the next page is that the branch does not seem to make as sharp a "Y" as it should.

EACH FIXTURE WASTES INTO SOIL PIPE

It goes without saying that the very best practice is to obtain as far as possible, separate entrances into the soil piping for the waste from each separate fixture. Such connections are shown in Fig. 6. Here it will be observed, none of the fixtures is individually vented, and that is unnecessary, for each of the three fixtures is stack-vented. Stack-venting can never be used when there are fixtures discharging into the stack at any point above, but when possible to use stack-venting and use it correctly, it is to be considered the most effective venting that can be used.

In Fig. 6 the bath waste enters a side inlet on the waste fittings, and there are well-nigh countless patterns of this type of drainage fitting, to which is given the general term of "crow-foot" fittings.

Stack venting such as shown on Fig. 6 is to be found in nearly all bungalow plumbing, and on top floors of other buildings, and on any floor in fact, when waste does not enter the stack at some higher floor.

A common practice in bathroom plumbing is to use a drum trap under the floor and connect both lavatory and bathtub into the one trap. Such connections, shown in lead, are to be seen in Fig. 3.

(Continued on Page 183)

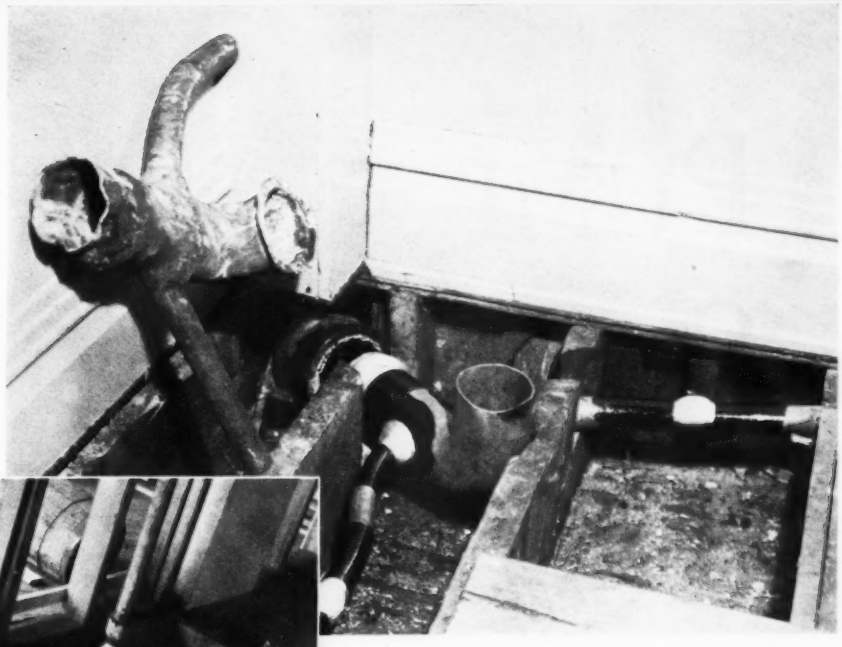
Fig. 2—This illustration shows how special cast iron drainage fittings are used in connection with leadwork. Figs. 4, 5 and 7 show additional variations in such fittings and connections

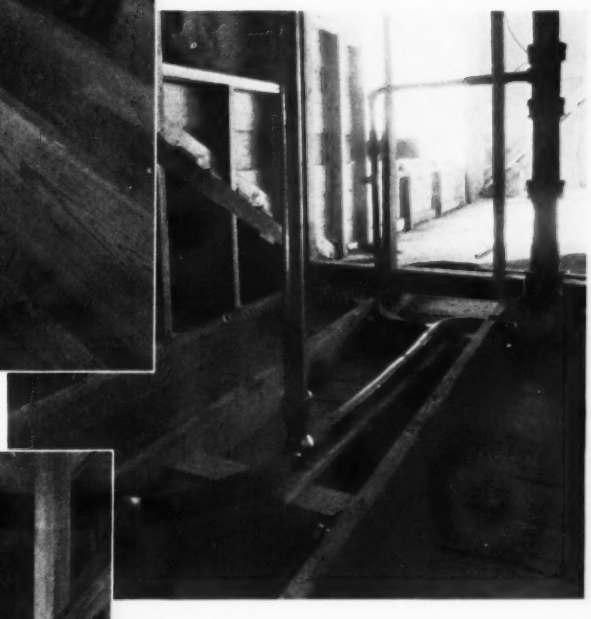
Fig. 3—Here is an illustration of a tub and a lavatory draining into a single drum trap

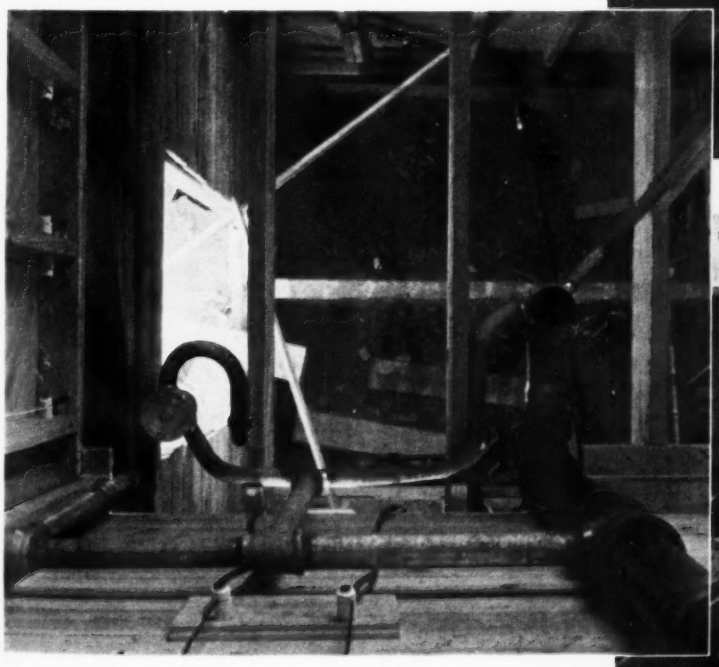
Fig. 8—In this case, two laundry trays empty into a drum trap in common with a tub. Some codes rule against this practice, requiring a trap for each fixture

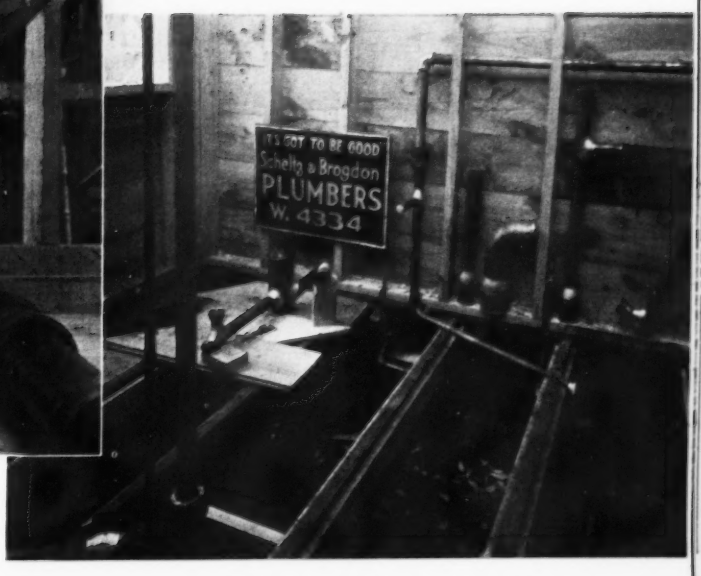
Four bottom pictures on this page illustrate the type of lead work in installations made by A. N. Apffel, secretary-treasurer of the Houston, Texas, association, and Scheltz and Brogdon

The top picture illustrates a poor example of leadwork replaced by a new installation. Connections are provided for the water closet, lavatory and tub and are referred to in this article









PUMP SALES ....

Novel presentation and aggressive merchandising efforts are measured in actual sales which result

Here is how the pump equipment looks mounted on the trailer

FRED LAWHON, plumbing and heating contractor-dealer of Arkansas City, Kan., has reversed an old story to secure results in the sale of pumps. The story which Mr. Lawhon reversed had to do with Mahomet, who was unable to go to a mountain and so called the mountain to come to him. In the case of Mr. Lawhon, he was quite willing and able to go to his prospects who find it difficult to come into town.

Pumps, like other merchandise, can be sold more readily when they, and what they are able to do, can be seen by the prospective purchaser, so Mr. Lawhon has a traveling pump sales exhibit mounted on a trailer. When ordinary sales methods proved ineffective in the territory, Mr. Lawhon's belief that high grade pumps could be sold provided prospects thoroughly understood the extra value of such equipment, prompted the new presentation.

Many of this contractor-dealer's pump sales have come as a result of leads supplied by the utility company and in this way follows closely the promotional plans of the Electric Water Systems Council. A pump similar to the one Mr. Lawhon has mounted on his trailer is on display in the office of the local utility company. This pump has Mr. Lawhon's name displayed prominently and, since all utility bills are paid at this office, customers who do not have pump equipment but do have electricity are made pump conscious.

This summer, Mr. Lawhon plans to take his pump trailer to all rural gatherings in the area especially so where they have rural electrification programs. Wherever there is a water shortage at such gatherings, this pump and tank will be used as the water supply, thus doubly impressing the value of the equipment on a prospect group. In visiting prospects, Mr. Lawhon employs a 40 gal. tank which takes the place of a well. He has 100 ft. of electric cord which he connects and then gives a visual demonstration of pump performance and the convenience of running water. Many sales have resulted which otherwise could not have been closed. Once having sold pump equipment, Mr. Lawhon is in a position to sell other plumbing equipment which running water has made possible.

In many ways, Mr. Lawhon's sales efforts closely parallel the promotional activity recommended in the five-year campaign of the Electric Water Systems Council. Some portions of the dealer manual put out by this agency illustrate the similarity.

"Never apologize to a farmer for taking his time in talking to him about a water system. That water system will do more to keep him and his family healthy, to lengthen their lives and to give them more precious hours of leisure than anything they could possibly buy. That's your story to the farmer!

"There is a tremendous market for water systems awaiting the aggressive and enterprising dealer. The significant thing about the market is that it is not remote or inaccessible. It is right there before you. The surface hasn't been scratched on the water system business.

"With memories of recent drouth years afresh in his mind, the farmer is in a mighty receptive frame of mind for a system that will assure a plentiful supply.

"Running water is 'crop insurance'—the best insurance of the kind the farmer and truck gardener can obtain.

"It's a practical dollars and cents proposition. The cost of the pumping equipment will be liquidated in a short time. Indeed there are many cases in which one season's increased profits have paid the entire cost of the installation for irrigating purposes.

"America is moving steadily onward to a higher standard of living for the rural population. This higher standard of living is putting dollars into the pockets of those dealers who are on the job selling the one thing which does more than anything else to take the drudgery out of farm work—that's running water."

Advance information on the promotional plans of the Council gave an indication of the basis for promotional activity.* This advance information stated: "Here is the procedure which will be followed in reference to prospects: As live prospects are developed through meter connections, electric companies will prepare and forward a list of such prospects to local participating dealers with copies to local distributors and the Electric Water Systems Council. Only the names of those who have the financial ability as well as the desire to buy will be classified as prospects."

*Domestic Engineering, March '37, p. 71.

Pump Engineering . . .

How may the capacity of a pump be estimated for various needs? This article gives the answer for rural, urban and industrial requirements

WATER is pumped for many purposes and in industrial work that used for different processes generally is fairly well known. Where the water supply is for the use of people or animals the average use per day will serve as a basis from which to develop the capacity required on the pump. The average city dweller uses about 100 to 110 gallons of water per day for all purposes of which about 40 gallons are hot water and 60 gallons cold water. In the rural districts where the plumbing fixtures are not so numerous and the usage

Fig. 1—This is an enlarged chart which shows the pressure drop for small pipes

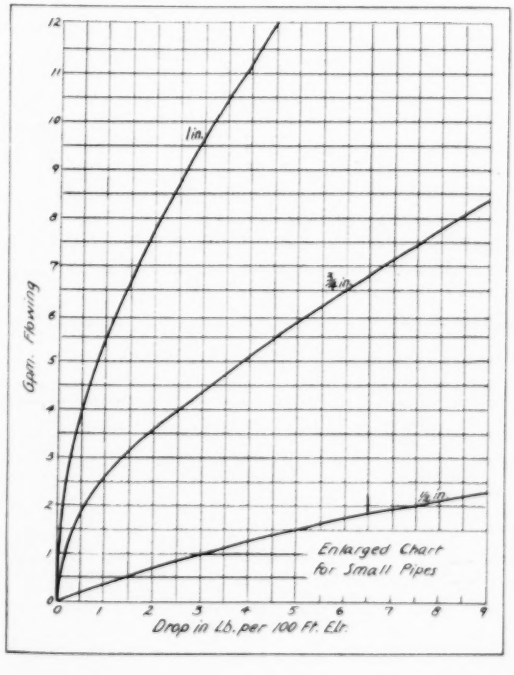
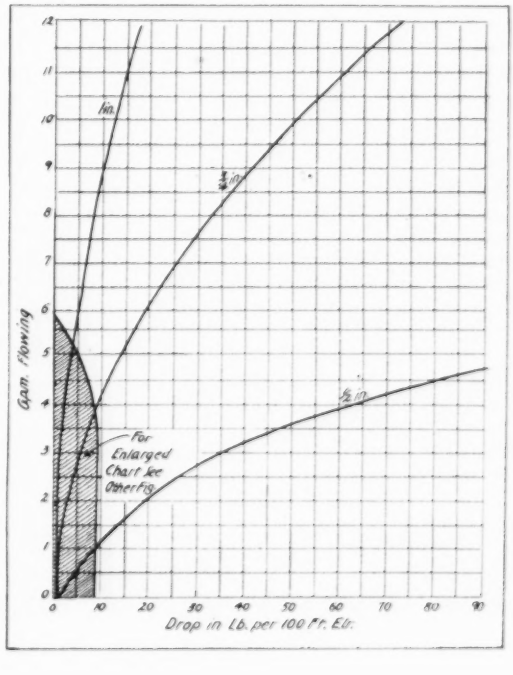


Fig. 2—This chart is for the same size pipe, but for longer equivalent lengths of run



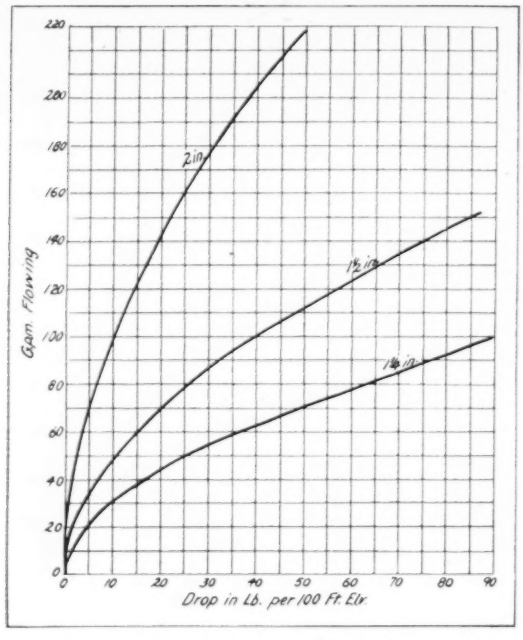


Figure 3—Curves showing pressure drop for 1¼ in. to 2 in. pipe

of water and water operated devices are not so convenient, as in the city, the amount of water used per person may be lowered to a considerable degree. It is difficult to conceive a case, where the water has to be pulled up out of a well by hand and carried into the house in buckets, where the water usage per person would reach even 30 gallons per person per day. The labor of securing the water in itself would tend against its profuse use and certainly against its wastage. When water supply systems are installed and accompanied by the ordinary plumbing fixtures it is customary that the water usage will rise to a point approaching other installations where the convenience of usage is similar.

In the case of farm occupants and farm animals the daily water consumption should approximate that shown in Table II while for individual plumbing fixtures the amounts shown in Table III generally are assumed for each usage or per minute of usage as noted.

Not only must the pump have the proper delivery and sufficient head to pump against the prevailing conditions of installation but it also must have an adequate driving mechanism to operate the pump in order to pump the water under these conditions. The formula for calculating the horsepower required to lift water is a very simple one consisting of the number of pounds of water raised per minute times the feet of head against which it is raised and divided by the number of foot-pounds in one horsepower. It is as follows:

Formula No. 3.

$$\frac{W \times H}{33{,}000} \text{ equals Theoretical hp.}$$

when

W is the water pumped per minute in pounds of weight

H is the head against which the water is pumped in feet

33,000 is a constant representing the number of foot-pounds per minute in one horsepower.

Theoretical hp. is the horsepower actually necessary to lift the water without considering any pump losses; in other words, with a pump efficiency of 100 per cent.

No pump has an efficiency of 100 per cent and all pumps have pumping losses, therefore, to obtain the actual brake horsepower—or power which must be applied to the shaft of the pump in order to drive it—it is necessary to divide the results obtained in Formula No. 3 by the efficiency of the pump. As it is not always convenient to calculate the "pounds of water pumped," since pump ratings usually are in g.p.m., suppose the theoretical horsepower is calculated for 1 g.p.m. raised one foot. Once this amount is obtained, any other conditions may be calculated by taking the theoretical horsepower required to raise one gallon per minute one foot in height and by multiplying this amount by the number of g.p.m. actually handled and by the number of feet of head against which this water is raised.

One g.p.m. raised one foot will require, according to Formula No. 3, a theoretical horsepower of

$$\frac{1 \text{ g.p.m.} \times 8\frac{1}{3} \text{ lb.} \times 1 \text{ ft.}}{33{,}000 \text{ ft. lb.}} \text{ or } 0.000253 \text{ Theo. hp.}$$

but the actual power that must be applied at the pump shaft is found by dividing the theoretical horsepower by the efficiency of the pump, or according to Formula No. 4

Theo. hp. / E equals Brake hp.

when

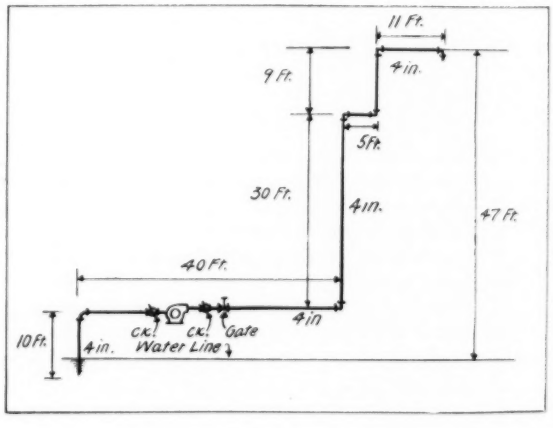


Fig. 4—A typical installation in which a pump is taking water from a well

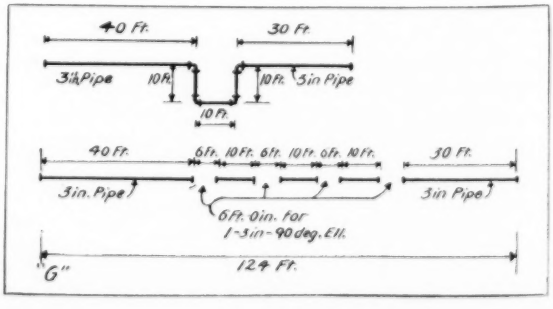


Fig. 5—An example in calculation of the equivalent length of run

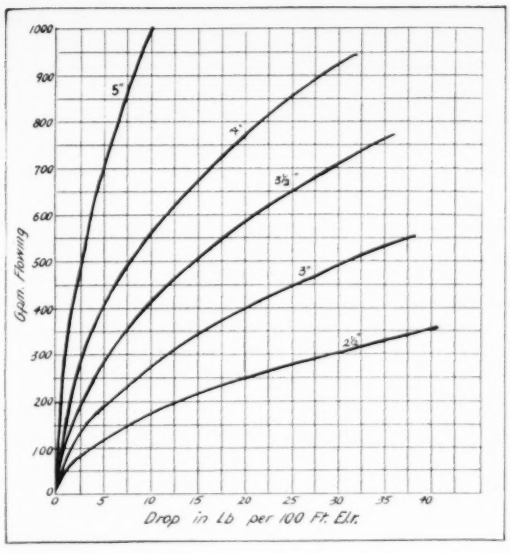


Fig. 6—Chart indicating pressure drop per e.l.r.

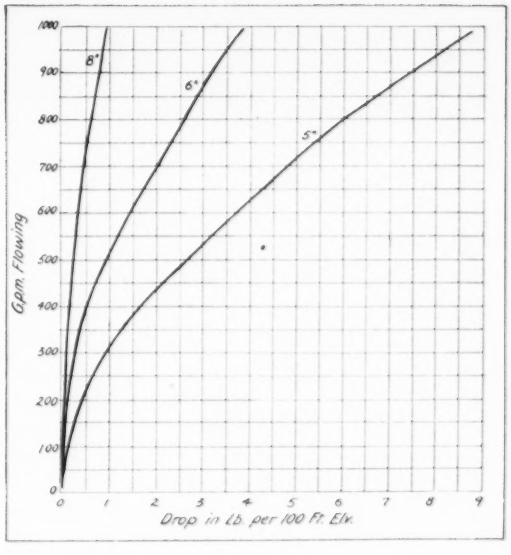


Fig. 7—This chart also shows pressure drop

Theo. hp. is the theoretical horsepower,

E is the pump efficiency,

and Brake hp. is the horsepower to be applied at the pump shaft so that the theoretical horsepower of 0.000253 hp. may be divided by the pump efficiency to obtain the brake horsepower for any pump efficiency desired. The results of such division are shown in Table IV where it will be seen that with a pump efficiency of 50 per cent the brake horsepower is 0.000505 hp. or just twice as much as the theoretical horsepower when the pump is assumed to have 100 per cent efficiency.

A pump is handling 100 g.p.m. against a head of 50 ft. with a pump efficiency of 60 per cent. What size (horsepower) motor will be required?

The brake hp. at 60 per cent efficiency from Table IV is 0.000420 and the brake hp. required therefore will be 100 g.p.m. × 50 ft. × 0.000420 br. hp. or 2.10 br. hp. but if the motor is a belted drive, the drive is assumed to have, say, about 90 per cent efficiency which would raise the motor horsepower to

2.10 br. hp. / 0.90 or 2.33 br. hp. or a 2½ hp. motor

Another example is when a pump is delivering 50 g.p.m. against 50 lb. pressure and has an efficiency of 70 per cent when directly connected to the pump under consideration.

The brake horsepower for 1 g.p.m. raised 1 ft. at

TABLE II
WATER REQUIRED FOR EACH PERSON

Person	30 to 50

WATER REQUIRED PER DAY FOR FARM ANIMALS

Animal	Gal. per Day
Horse	8 to 12
Cow	18 to 22
Pig	1 to 2
Sheep	1
Goat	1

TABLE III
WATER REQUIRED FOR INDIVIDUAL PLUMBING FIXTURES, ETC.

Water Closet, per use	5 to 7 gal.
Bath Tub, per use	20 to 25 gal.
Lavatory, per use	1 gal.
Kitchen Sink, max. per hr.	30 gal.
Laundry Tub, max. per hr.	30 gal.
Shower, per minute	4 to 6 gal.
Garden Hose, per minute	5 gal.

TABLE I
EQUIVALENT PIPE LENGTHS HAVING SAME FRICTION AS VARIOUS FITTINGS

Fitting or Valve	Equiv. 90° Ells	Pipe Diameters No.	Nominal Size of Pipe ½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"	5"	6"	8"
			Equivalent Length of Pipe in Feet												
90 Deg. Ell	1	25	1′	1½′	2′	2½′	3′	4′	5′	6′	7½′	8′	11′	13′	17′
45 Deg. Ell	¾	18	¾	1¼	1½	2	2¼	3	4	4½	5	6	7½	9	12
90 Deg. St. Ell	½	13	½	¾	1	1¼	1¾	2	2¾	3¼	3¾	4½	5½	6½	8¾
Gate Valve	½	13	½	¾	1	1¼	1¾	2	2¾	3¼	3¾	4½	5½	6½	8¾
Globe Valve	12	300	13	19	25	31	38	50	63	75	88	100	125	150	200
Tees															
On the Run	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Through Branch															
Percent, 100	1.8	45	2	2¾	3¾	4¾	5½	7½	9½	11	13	15	19	23	30
Percent, 50	4.0	100	4	5	8	10	13	17	21	25	29	33	42	50	67
Percent, 33	9	215	9	13½	18	22½	27	32½	45	54	63	72	90	108	144
Percent, 25	16	400	16	20	32	40	52	68	84	100	116	132	168	200	268

70 per cent efficiency from Table IV is 0.000360 so the brake horsepower will be

$$50 \text{ g.p.m.} \times \frac{50 \text{ lb.}}{0.43 \text{ lb.}} \times 0.000360 \text{ br. hp. or } 2.08 \text{ br. hp.}$$

and as this pump is assumed for purposes of illustration to be direct connected no modifications for belt losses are necessary. This will be the required horsepower of the motor and probably a 2½ hp. motor would be used.

When a fitting or valve is inserted on the pipe line there is a small amount of friction created by water passing through it. This usually is in excess of that which would occur if the fitting or valve were not on the pipe. It has been found by experiment that the ordinary steam-and-water 90 degree elbow has a friction equal to a length of about twenty-five times its diameter in straight pipe. In other words, the friction for a 1 in., 90 degree ell is equal to about 25 in. of 1 in. pipe. In the case of tees the flow through the tee on the run exerts so little friction that it usually is neglected but if the water makes a right angle turn in the tee the friction varies according to the percentage of water making this turn. The values in Table I show the allowances, in straight pipe of the same diameter which must be made for different fittings, valves, etc.

The equivalent length of run is that length of straight pipe which has the same friction as the actual length of pipe plus its fittings and valves. It consists of the actual length of straight pipe plus the equivalent lengths allowed for each fitting and valve included on the pipe. For example in Fig. 8 at "A" there is shown a piece of straight pipe 100 ft. long and the equivalent length of run for this pipe is 100 ft., as no fittings or valve are on the line. In "B" there is shown a piece of 3 in. pipe also 100 ft. long but including four 90 degree ells. This pipe does not have an e.l.r. of 100 ft., but has an e.l.r. of 100 ft. plus 4 times 6 ft. or 124 ft., as each 3 in., 90 degree ell has an equivalent length of 6 ft. of 3 in. pipe. In "C" there is shown the amount, or length, of straight pipe which would have the same friction as the pipe and fittings shown in "B."

The size of pipe also alters the e.l.r. as will be seen by referring to Fig. 2 at "D" where a pipe similar to that previously shown at "B" is indicated except that this pipe is of 6 in. size. The equivalent length of run for this pipe is not 124 ft. as it was for the 3 in. pipe but, instead, is

100 ft. plus 4×13 ft. or 152 ft., e.l.r.,

owing to the fact that 25 pipe diameters on a 6 in. pipe amount to approximately 13 ft. instead of approximately 6 ft. as they did in the case of the 3 in. pipe. The length

(Continued on Page 177)

CAST YOUR VOTE...

Here is opportunity to help shape further legislation or to modify the Robinson-Patman Act

TWELVE high officials in Washington were interviewed a few days ago by one of the editors of DOMESTIC ENGINEERING in company with a group of editors from other national business publications who met in Washington for that purpose (see pages 63, 66 and 67). While everything which was discussed was "off the record," it can be pointed out, without violating confidences, that there was a very definite desire on the part of official Washington to learn what business thinks of legislation which has been enacted and which now is being considered for enactment by the Senators and Representatives.

For instance, after we had finished questioning one of the senators on various subjects including the Robinson-Patman Act, we were about to leave and he stopped us with the words, "Wait a minute. I want to ask you some questions now." DOMESTIC ENGINEERING's representative mentioned a poll of our industry which we have in development and a great interest was evidenced in it and the answers which are obtained. This brings us to the point of this article.

Here is your oportunity to tell official Washington what you think about the Robinson-Patman Law. The enclosed questionnaire contains questions on this legislation, on its effect upon business and on its practical operation. These questions were suggested partly by leaders in Washington after our conferring with them, both in company with the editors' group and individually. This poll is absolutely confidential.

If you have any interest in shaping further legislation or in modifying the existing Robinson-Patman Law, we urge that you fill out this questionnaire and return it to us promptly. The results will be brought to the attention of official Washington.

In Your Opinion

I. In your opinion what does the Robinson-Patman Act intend to accomplish? .....
.....

1. On the basis of your interpretation do you approve of the Act?.....

II. Do you believe that in the long run the Act will have beneficial effects upon your own particular business?.....

1. Has the Act so far been of benefit to your business in any way?.....
2. Has the Act so far been of detriment to your business in any way?.....

III. Has the Act clarified the existing relationship on sales policies between you and your manufacturers?.....

1. Has the Act clarified the existing relationship on sales policies between you and your purchasers?.....

IV. Are you in favor of amendments to the present structure of the Act?.....

1. If your answer to question IV was "yes," what particular amendments do you favor? .....
.....

V. Do you favor the provision of the Act which makes it apply to both buyers and sellers?.....

VI. Do you favor limitations on payment of brokerage to buyers such as are imposed by the Act?.....

VII. Are you favorably disposed towards the provision of the Act which states that quantity discounts must be justified by savings in cost of manufacture, sale or delivery?.....

1. Do you approve authorizing the FTC to fix quantity limits?.....

VIII. Do you favor the provisions which are to be found in Section 3 of the Act establishing criminal as well as civil liability for violations?.....

IX. Do you favor group discounts which are given for the total purchases made by all members or units of voluntary or corporate chains?.....

1. Do you favor carload discounts?.....
2. Do you favor cumulative quantity discounts for the total purchases which may be made over a specified period?.....

X. Do you favor reasonable compensation for advertising or distribution services which really are rendered by distributors?.....

XI. Suppose the Robinson-Patman Act did not exist. If that were the case, would you be favorably disposed towards advertising allowances which were in excess of the actual cost of the services rendered?

1. Would you favor accepting brokerage direct from the manufacturer?.....
2. From the headquarters of a buying organization?.....

XII. Are you in favor of the so-called "junior" Robinson-Patman acts?....

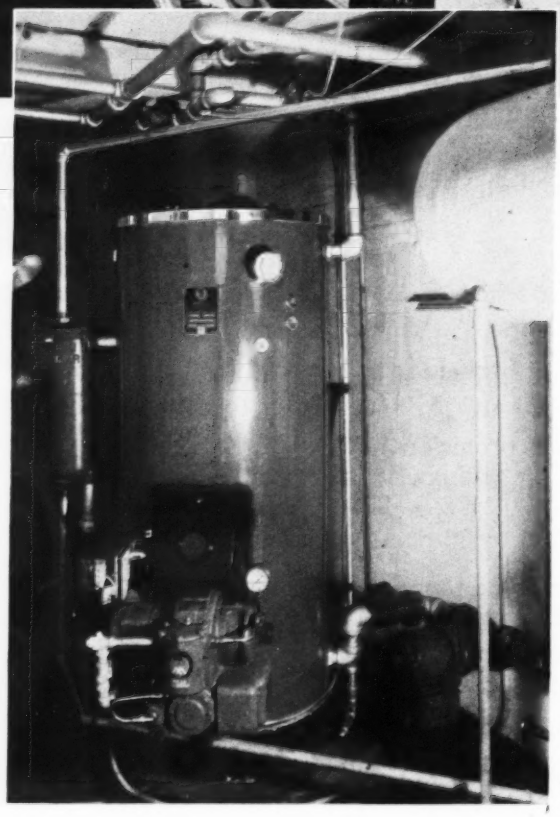
1. Is there such an act in your state?..... (Name of state).....

XIII. Is your business rated as being large?..... Medium?..... Small?....

XIV. Have you examined your costs to justify your discounts?.....

XV. Is your business interstate or intrastate? .....

Send Us Your Answer



The photograph at the top of the page shows an interior view of Mr. Johnson's store. Immediately above is one of his oil burner installations

STOKER

BACK in 1933 Menus Johnson, Chicago heating contractor-dealer, decided to sell automatic heat as a means of bolstering his business volume which had suffered along with that of other contracting firms as a result of the almost total lack of new construction.

Taking on an oil burner line in August of that year, the results achieved during the remaining five months of the year might well have discouraged the average person, only one burner being sold. These first months, however, were devoted chiefly to shaping a sales plan, and gave no indication of what was to come. In the next year, 1934, the firm sold 17 conversion burners; in 1935 a total of 24 conversion burners were sold, and in 1936 sales increased to 26 conversion burners, or a total of 68 conversion burners for the period. In addition, twelve boiler-burner units were sold during this period, which, combined with the conversion burners, increased the total sales to 80 units. The majority of the installations were made in existing bungalows, residences and two-flat buildings, the balance of the jobs consisting of larger apartment buildings, stores and one large industrial installation.

About a year and a half ago the company expanded its operations by including stokers in its automatic heat line in order to be in a position to handle all types of jobs, and thus far has sold eight stokers. Most of the stoker sales have been in large apartment buildings.

BURNERS AND STOKERS ARE NATURALS

"Oil burners and stokers are natural items for the heating contractor to handle," said A. Leland Johnson, son of the owner of the firm and in charge of the sale of automatic heat products. "These items are highly profitable," Mr. Johnson explained. "We have found that the margin of profit is larger on automatic heat jobs than on an ordinary heating job of the same size."

The best leads for sales of oil burners and stokers are secured from old customers who recommend the Johnson firm. Other good leads are secured from fuel oil companies who deliver fuel oil to the Johnson firm's customers and as a result spot other residences and buildings in the neighborhood that seem to be likely prospects.

CANVASSES FOR PROSPECTS

Mr. Johnson has used the cold canvass method with considerable success in the past, and plans to make another canvass this year. At the beginning solicitors were employed to make the canvass, but Mr. Johnson was dissatisfied with the results and now makes the canvass personally. His method is to select an area which, according to his personal knowledge of the neighborhood, is likely to contain good prospects for automatic heat. And then it is a matter of going through the area ringing door bells. On these canvassing excursions, Mr. Johnson always leaves literature describing the product with the prospect, tells him that his firm are established heating engineers, makes inquiries concerning the heating system in the home and outlines the advantages of automatic heat.

The information secured from these calls is noted on a 3 by 5 in. card, which is filed in the office for future follow-up. Reproduced with this article is one of the cards filled out following a call made in connection with a cold canvass. The follow-up on this resulted in the sale of a conversion oil burner in the spring of 1936.

AND OIL BURNER SALES

Mr. Johnson makes most of his personal calls in his spare time in the evenings during the spring and fall months. He finds that prospects are not greatly inclined to listen to a discussion of heating problems in the summer months, and is of the opinion that the summer period can be better spent in developing a list of prospects and possibly contacting them through the mail. Mr. Johnson has had better results with his personal calls in the fall months than in the spring, because of the fact that prospects seem to be more heat-minded with the winter approaching.

In the canvassing work, however, Mr. Johnson does some of his calling during the day. If the housewife appears to be interested in the subject of automatic heat, he usually makes a return call the evening of the same day to talk with the husband. Generally it is the man of the house who buys automatic heat products and most of the company's deals are closed with the men in the evening.

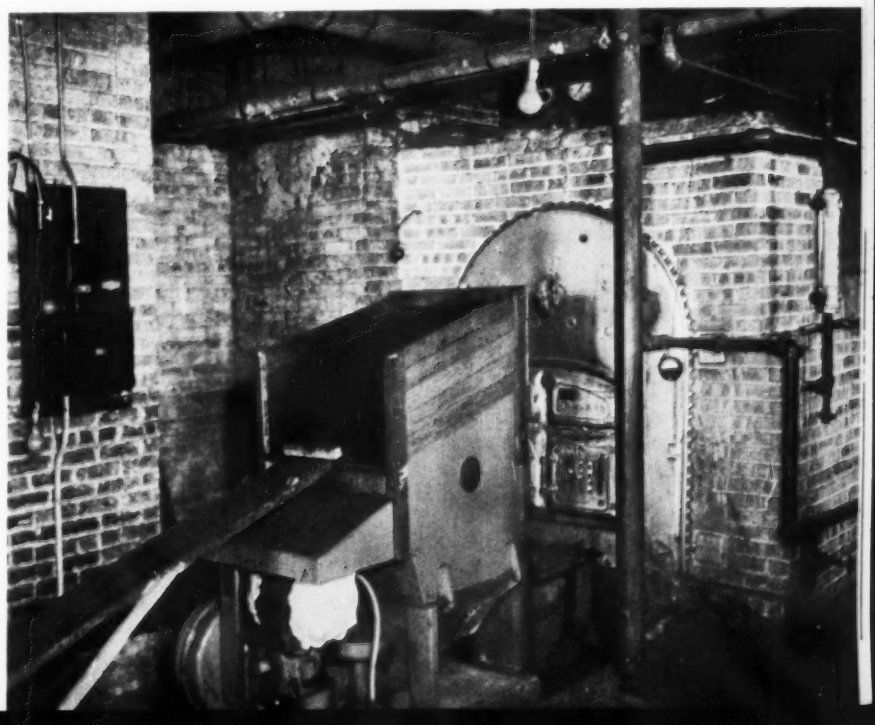
CALLS DAY AND EVENING

In talking with an oil burner prospect Mr. Johnson has found that his best selling points are cleanliness, the labor saving factor, the even heat provided, quiet operation, dependability and economical operation.

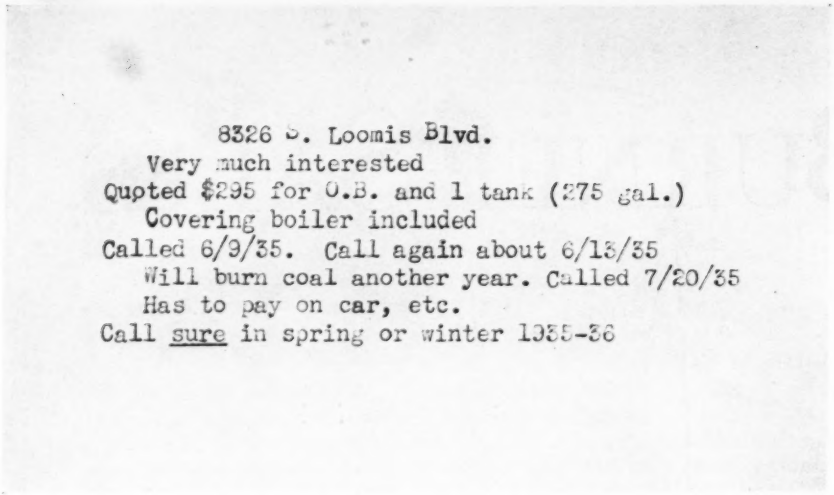
As previously mentioned, Mr. Johnson compiles a list of prospects during the summer months and contacts these persons through the mail. The list is accumulated over a period of time from tips received from old customers, fuel oil salesmen and leads picked up by Mr. Johnson himself and other members of the organization. In the summer of 1936 such a list was prepared and letters were mailed to approximately 75 prospects. About twenty replies were received, resulting in the sale of ten or twelve burners.

Some time ago Mr. Johnson employed a couple of salesmen to sell automatic heat, paying them a commission of 10 per cent with no salary, but he was dissaatisfied with the results. "These men brought in a number of good leads," he said, "but it was necessary for me to do all the closing, and so I figured I might just as well do the entire job myself." It is almost impossible, Mr. Johnson said, to find a salesman with a thorough knowledge of heating problems, and in selling oil burners it is essential that the burner be suited to the job. We want all installations to be a credit to the company and so on all sales made by the salesmen I always checked the job

Automatic heat, which originally was taken on by this contractor-dealer as a means of bolstering his business during the depression, now has become one of the chief parts of his business



This stoker installation was made in an apartment house. The photograph was taken as the hopper was being filled which accounts for the runway



8326 S. Loomis Blvd.
Very much interested
Quoted $295 for O.B. and 1 tank (275 gal.)
Covering boiler included
Called 6/9/35. Call again about 6/13/35
Will burn coal another year. Called 7/20/35
Has to pay on car, etc.
Call sure in spring or winter 1935-36

Shown at the left is the type of prospect card which Mr. Johnson uses for his automatic heat calls

plan to make certain that the burner was of the proper size, etc."

The Johnson company prefers to service its installations; in fact, Mr. Johnson stresses this point in making a sale. He feels this is necessary in order to make certain that the burner will operate properly, thus adding another satisfied customer to the list. Free service is given for a period of one year following the installation. During the first two months that the burner is in operation three check-ups are made to see if everything is operating properly, and after that no calls are made unless requested. The home owner is instructed how to oil the burner every two or three months.

In selling an oil burner, Mr. Johnson explains that his company will clean and oil the burner and give it a general check-up each fall for $3.00 and emphasizes that the company wants to do this service work. This service work is done both as an accommodation and a protection to the customer. There is no contract with the customer for the fall service operation—it is simply a verbal understanding. Showing the customer the intricacies of the oil burner and explaining that, like an automobile engine, it needs a periodic checkup to perform trouble-free service gets him in a mood to agree easily.

TWENTY-FOUR HOUR SERVICE

The fall service work is started in the early part of August and is completed in the first part of October. The Johnson firm has three factory trained men in its organization. An interesting thing about the service calls is the number of sales leads that are picked up by the service men, such leads having resulted in the sale of eleven or twelve burners. The men are paid a flat rate averaging about $10 for all leads turned in that result in sales.

Twenty-four hour service is maintained for oil burner and stoker customers, the instruction card attached to the unit listing three telephone numbers to call if service is needed. A flat rate of $3 is charged for emergency calls, materials being charged extra unless only a small item such as a fuse is needed.

Another heating contractor-dealer in Chicago who is pushing the sale of oil burners and stokers is H. V. McKirnan. Mr. McKirnan has been handling automatic heating equipment for a little over a year and has sold 20 oil burners and 12 stokers. Most of the stokers were installed in old buildings, while the oil burner installations were divided equally between existing buildings and new structures.

The McKirnan company secures its sales leads by following up hand-fired heating installations made in the past, by tips from customers and with sales letters to prospects. About two years ago the company made a door-to-door canvass of neighborhoods which contain many two-flat buildings heated by warm air. The purpose of the canvass was to interest owners of these buildings in radiator heat. Two canvassers were engaged for the work on a straight commission basis of 4 per cent. The results of the canvass were satisfactory so far as the company was concerned, two sales resulting and a good list of prospects being developed. This list is being worked for automatic heat, according to Earl O'Connel, who does a large part of the selling for Mr. McKirnan's firm.

STRESSING SAVING OF LABOR

One of the principal points emphasized by Mr. O'Connell in talking with an oil burner prospect is the labor-saving element, this point being particularly influential if the housewife is required to fire the boiler herself. He also checks the fuel costs and estimates the amount that can be saved by using oil in place of hand-fired coal. He also explains that on a hot water system the oil burner will reduce the cost of maintaining the supply of domestic hot water.

It is easy to promise a saving in fuel costs when discussing a stoker installation with a prospect, Mr. O'Connell said. On hot water jobs, you can also tell the prospect that the stoker will reduce his domestic hot water costs.

Mr. O'Connell estimated that approximately 75 per cent of the leads for automatic heat sales are turned in by old customers. On every heating installation done by the company an effort is made to sell the owner on the idea of automatic heat, and with the sale of the idea comes the order for equipment.

OLD CUSTOMERS GIVE HIM LEADS

The McKirnan firm does not service either its oil burner or stoker installations, preferring to have this work handled by outside organizations. The customer receives free service on both oil burners and stokers for the first year. On an oil burner installation, the McKirnan company pays the service organization it employs a flat sum to cover the service on the burner for the first year. Thereafter, the customer pays for the service.

3% PER DEGREE . . . .

Does raising residence temperatures above 70 deg. Fahr. increase the heating cost? Here is the answer based on degree day method

TO THE EDITOR:

For several years I have noted from time to time claims made that the raising of the temperature in a residence above 70 deg. Fahr. resulted in an increased heating cost of about 3 per cent for each degree of rise. This seems to be unreasonable and I should like to know if this is authentic or just someone's imagination. Could it be proved or disproved by use of the degree day method?

A Reader.

IT is a well known fact that the holding of temperatures higher than 70 deg. Fahr. in buildings not only is unhealthy but expensive. Just how much more expensive may not be a matter quite so easily settled. As our reader has suggested in his question that it might be possible to check this by the degree day method we will see what can be done along that line. In the first place we will select a concrete instance to talk about and for this purpose we have selected New York City where the average number of degree days amounts to 5,348. New York has a minimum temperature of 14 below zero in the winter and the heating systems usually are designed for a minimum temperature of zero.

Table I

Oct.	7.98 per cent	Jan.	19.01 per cent
Nov.	12.96 "	Feb.	18.18 "
Dec.	17.07 "	Mar.	14.87 "
		Apr.	9.93 "
Total...	38.01 "	plus	61.99 "
		or	
		100 Per cent	

The percent of the total degree days which occur during each heating month is as shown in Table I.

From this a curve for heating load, or fuel demand, may be determined as shown in Fig. 1. It will be noted from this curve that in the average winter the amount of heat (fuel) required for the three winter months of December, January and February is fairly close, that November and March pair off together within a couple of per cent and October and April are similarly tied.

Table II

7.98	per cent	for Oct.
12.96	"	for Nov.
20.94	"	for Oct. and Nov.
17.07	"	for Dec.
38.01	"	for Oct., Nov. and Dec.

A curve also may be plotted showing the percentage of fuel which normally would be consumed as the heating season progresses also may be plotted, this curve being obtained by taking a percentage of 7.98 for October, then adding to this the percentage of 12.96 used in November, giving results shown in Table II and so on until the end of April when all, or 100 per cent of the fuel has been used.

From the degree day information by months it also is possible to obtain the average monthly temperature out-

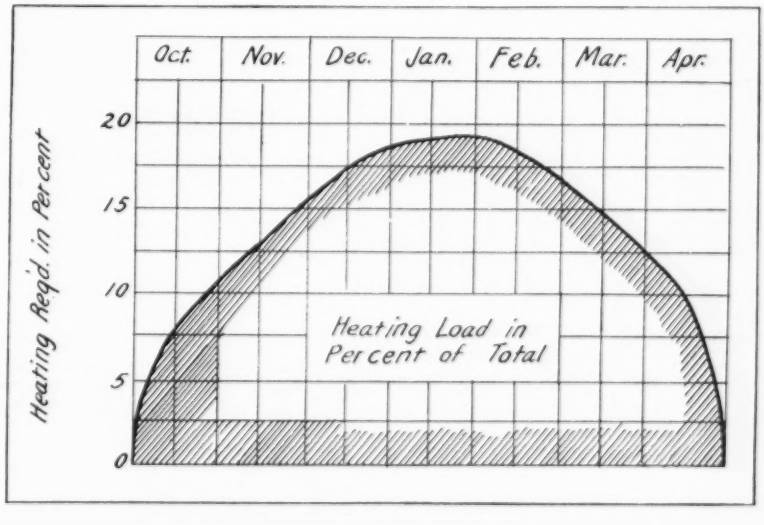


Fig. 1—The curve for the heating load or fuel demand may be determined as shown here

side which is what we have been working for, because it is known that the degree days is the product of the number of days and the number of degrees below 65 deg. Fahr. assumed by the average daily temperature. Therefore, if the number of days in the month are known and the number of degree days in the month also are known, the degree days divided by the days in the month will show the number of degrees below 65 deg. Fahr., which the outside temperature for that month averages. This may sound rather involved, but let a typical example be assumed, such as is given in the following typical example.

TYPICAL EXAMPLE GIVES DEGREE DAYS

In October, for instance, there are a certain number of degree days which, according to the information available, amount to 7.98 per cent of the degree days per year, or 5,348 degree days × 0.0798, which is 426 degree days. Now, if October has 426 degree days and there are 31 days in October, then the average number of degree days *per day* will be 426 degree days/31 days, or nearly 14 degrees. This 14 degrees is an average for that month and is below an average daily temperature of 65 degrees, making the average outside temperature for the month

65 degrees minus 14 degrees or 51 degrees.

Table III shows this method carried out for each of the heating months from October until May and these average monthly temperatures now may be plotted on a chart and a picture of the outside temperature conditions secured as indicated in Fig. 2. At 70 deg. Fahr. in Fig. 2 a horizontal line has been drawn to indicate the ordinary room temperature of 70 deg. Fahr., and just above this line has been drawn a dash line at 71 deg. Fahr. room temperature. There also is a dot and dash line shown and marked, "Av. Temp. for Htg. Season," which is determined by dividing the total degree days for the year (or 5,348) by the number of heating days from October to May, both inclusive and amounting to 212 days. This shows that the average heating season temperature is

5,348 degree days/212 days or 25.2 degrees below 65 deg. Fahr., making the average outside temperature

65 deg. minus 25.2 deg. Fahr., or 49.8 degrees, which usually is taken as 40 degrees.

With the information set up there are now two ways by which the amount of fuel increase may be checked for the carrying of 71 deg. Fahr. inside during the heating season instead of 70 deg. Fahr. One of these is by the added number of degree days which will occur and the other is by the increased average temperature difference which must be maintained. In the matter of degree days it is apparent that the raising of the inside temperature 1 degree would result in the addition of one degree day for every day in the heating season, as the base temperature of 65 deg. Fahr. would then be raised to 66 deg. Fahr. in the degree day computation. This would mean an addition of some 212 degree degrees or the percentage shown by the following equation:

212 degree days/5,348 degree days, or 3.96 per cent added.

This addition of 212 degree days is not strictly correct, however, as every day of the 212 included from October to May is not a heating day; that is to say on certain warm days no heat will be required and such days would not add one degree day to the heating demand. Against this is the fact that the higher the inside temperature is raised the greater will be the number of days on which artificial heat will be required to maintain the higher inside temperature. This is evident when it is considered what would happen in a case where it was desired to carry 100 deg. Fahr. inside such as occurs in certain rooms in a turkish bath house. It will be seen that, on the basis that heat would be required whenever the average daily temperature was less than 5 degres below the room temperature desired, heat would be necessary on about 360 days a year instead of 212 days as has been previously indicated.

ANOTHER MODIFICATION TO CONSIDER

Another modification that must be allowed for is the fact that although the temperature is raised to a higher point during occupancy periods it probably would not be raised to a higher point during the night period when every one is asleep. If the night period is assumed as roughly 1/3 of the day of 24 hours, or about 8 hours, then the extra degree days would only amount to about 2/3 of their full value since they exist only 2/3 of the time. This would reduce the added heat required under the degree day calculation to

$$3.96 \text{ per cent} \times \frac{24 \text{ hrs. minus } 8 \text{ hrs.}}{24 \text{ hrs.}} \text{ or } 2.64 \text{ per cent.}$$

Let us see how this checks with the average temperature difference to be maintained. With a room maintained at 70 deg. Fahr. and an average outside temperature of 40 deg. Fahr., as previously determined, the average temperature difference maintained is

70 deg. Fahr. minus 40 deg. Fahr., or 30 degrees

and with a room maintained at 71 deg. Fahr. and an

(Continued on Page 179)

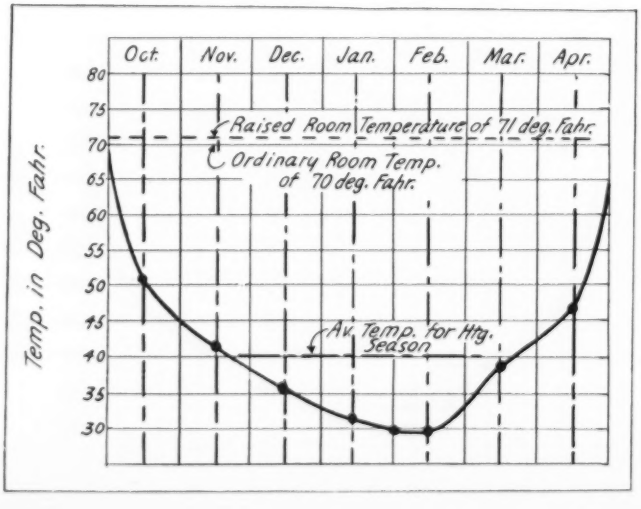
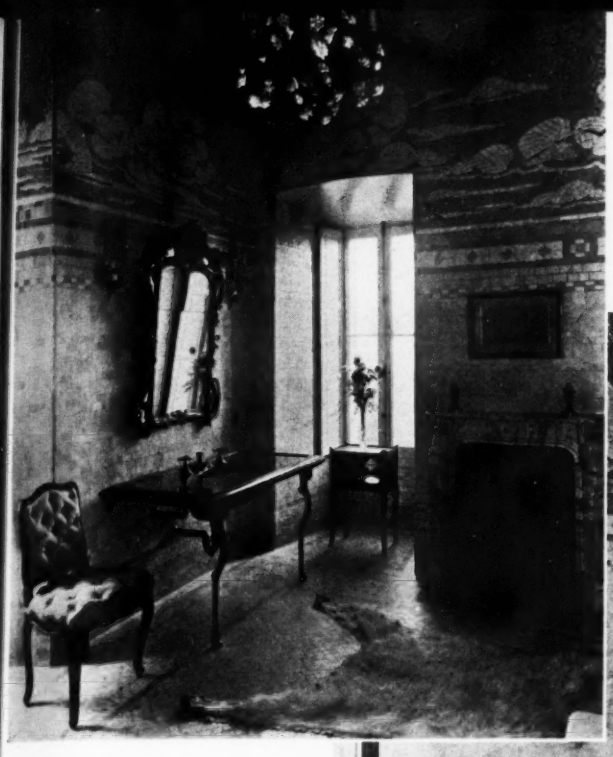
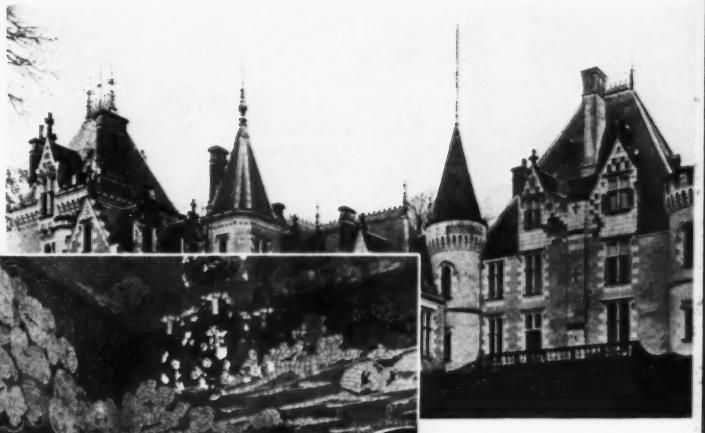
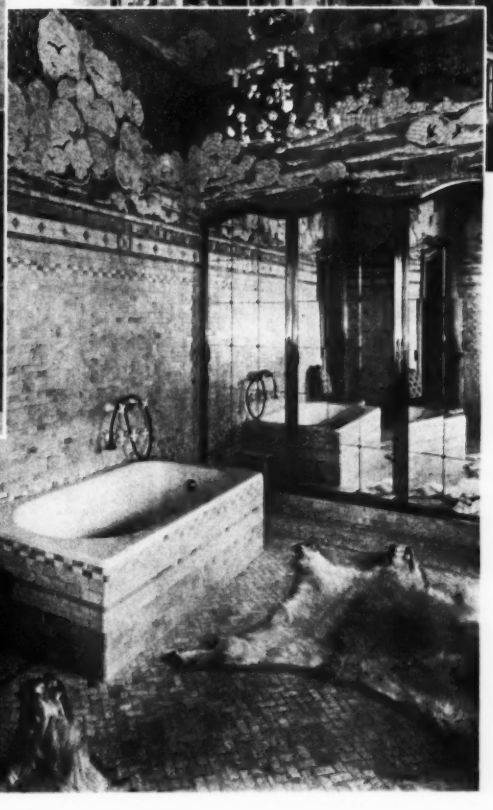


Fig. 2—This curve shows average monthly temperatures plotted to give a picture of outside temperature conditions







At the right are shown views of one of the lavatories and one of the tubs installed at the Chateau de Cande in France. Also shown is a photograph of the chateau itself

CHATEAU DE CANDE

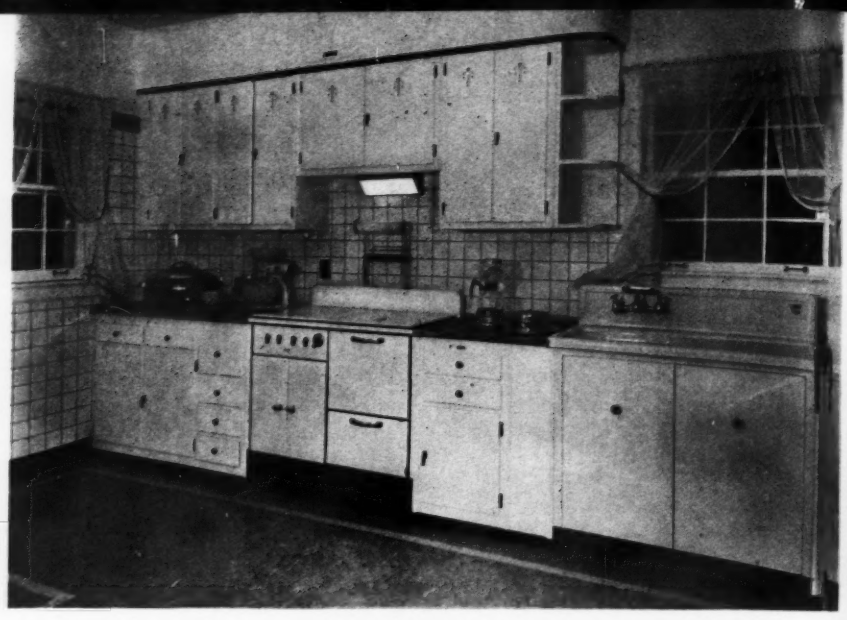
ANCIENT European castles usually are thought of as picturesque, massive structures with at least one ghost and poor plumbing. There also has been the same sentiment towards French chateaux. The only difference is that a chateau has fewer ghosts than a castle, but equally bad plumbing. While this may be a fair enough view to take about many chateaux and castles, something has been done about the plumbing in at least one of them. Although no information is available about its ghost, if it had one, the much publicized Chateau de Cande at Monts, France was modernized recently by the installation of seven complete bathrooms equipped with American made plumbing fixtures.

This historic old structure, built in 1313, is owned by an American living abroad. Plumbing modernization carried on at the chateau included lavatories of black Italian marble, with gold plated faucets, fittings and legs; porcelain tubs; and steam heated towel warmers.

A description of the Chateau de Cande which, according to reports, appeared recently in *Le Figaro Hebdomadaire* (a French newspaper), stated that much of the furniture in the building went back to the reigns of Louis XIII, Louis XIV, Louis XV and Louis XVI. However, the chateau's owner went back to America for his plumbing fixtures.

This illustrates a change which has come about in comparatively recent times. In the days when the United States was a land of vast, unexplored frontiers and scalping was something to lose your head over and not merely a dollar more on each ticket, France was the recognized leader in the development of sanitary facilities.

(Continued on Page 171)



At the right is a view of the kitchen in the Junior Chamber of Commerce Model Home in Birmingham, Ala., the plumbing installation of which led to sales

ADVERTISING.....

Plumbing installation in model home leads contractor to twelve new jobs

"THE finest advertising I ever did."

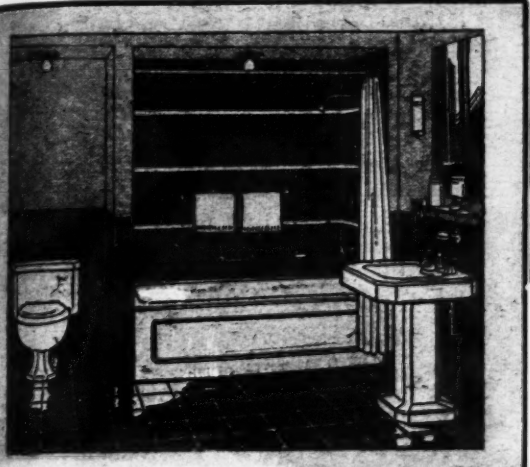
That is what J. H. Morris, proprietor of the J. H. Morris Plumbing Company had to say of the part he had recently in the building and equipping of the Junior Chamber of Commerce Model Home in Birmingham, Ala., his home town.

Morris installed the two ultra modern bathrooms as well as the kitchen fixtures in this home which to date has been visited by 30,000 persons. He has sold more than a dozen jobs directly from this one installation and the indirect advertising has been worth he doesn't know how much. People seem to figure that if he can install bathrooms like those in the model home, he certainly can do their work and do it well.

About half of the contracts held by Morris are in new homes being erected in Birmingham's most exclusive district. He gets these jobs because he is a great fellow to cultivate real estate men, contractors and architects, all of whom have a great deal to do with the selection of the master plumber. He is a member of the Junior Chamber of Commerce and it was natural that this organization should turn to him for the plumbing when it decided to set the pace for new home construction in the city. Morris was glad to do the work at actual cost because of the free advertising involved.

Shown at the left is J. H. Morris of the J. H. Morris Plumbing Company, the firm which made the plumbing installation in this model home

An exterior view of the model house is shown at the right. Below is the type of newspaper advertisement used by the firm

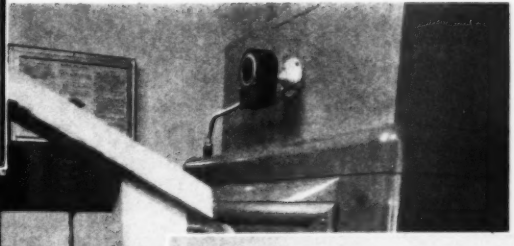


Plumbing Fixtures installed in this Model Home were bought through the Peerless Alabama Company and installed by

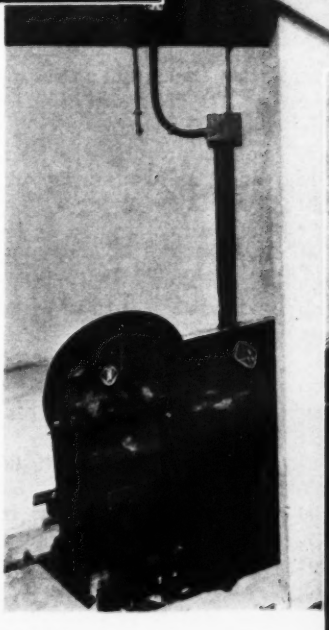
J. H. MORRIS PLUMBING
2844 SOUTH 18TH STREET
HOMEWOOD, ALA.

visiting the house and the radio broadcasts originating therefrom. Framed signs in each room of the house give a list of the contractors and the part they had in the building and equipping of the house. The advertising

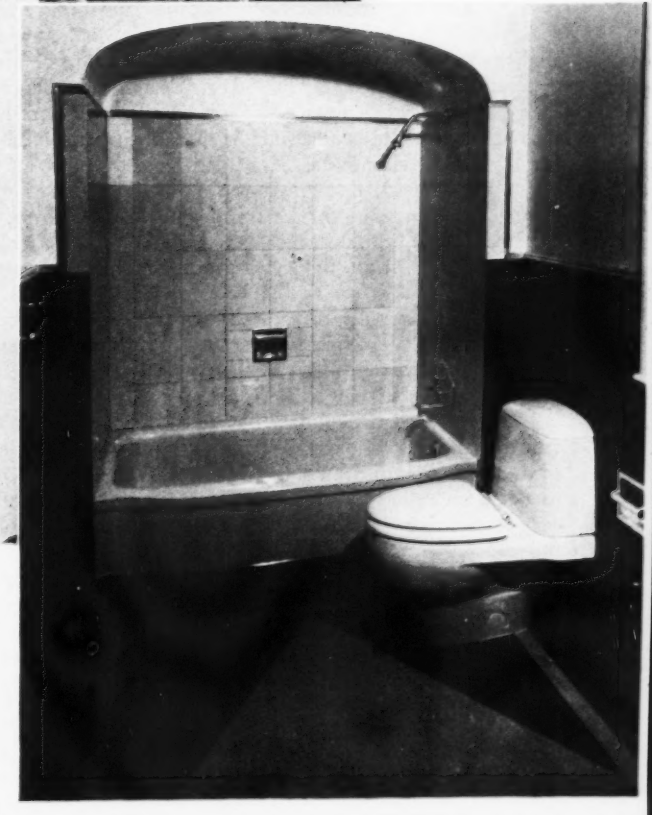
(Continued on Page 171)



Immediately at the right is a view of the stoker in the model home



At the lower right is one of the ultra modern bathroom installations made by this firm



All three daily newspapers in the city got out special magazine sections on the model home. The Junior Chamber distributed some 15,000 free booklets describing the house and furnishings. Almost a story a day has appeared in the newspapers about the crowds

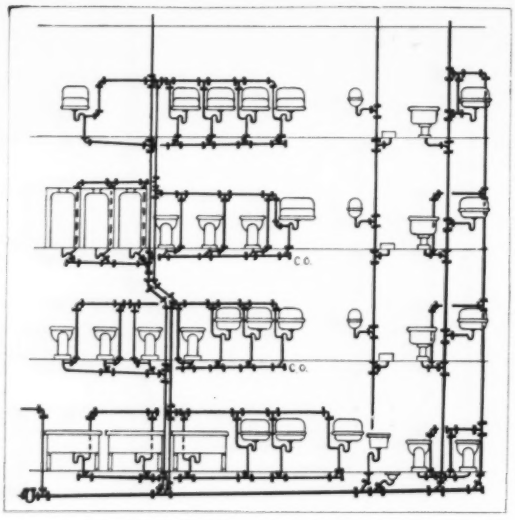


Fig. 1—The chief criticism of this drawing is that there is an extensive use of crown venting

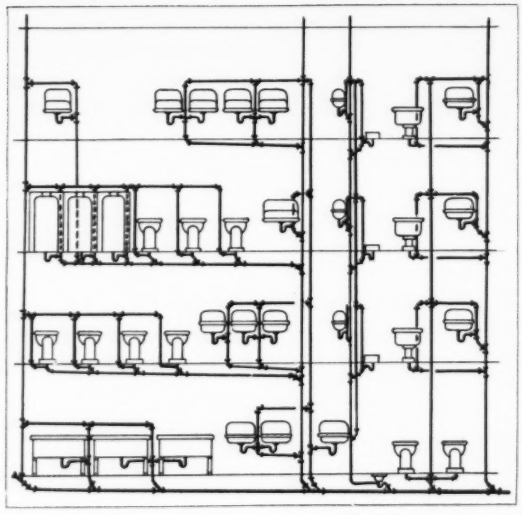


Fig. 2—The main criticism here is that the drinking fountains and refrigerators are incorrecty connected

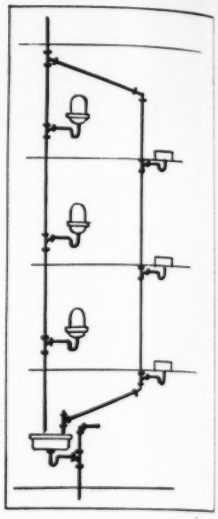


Fig. 3—A method of connecting stacks

CAN YOU SCORE 30

Almost one third of most plumbing examinations consist of the correction of drawings such as these presented here

IN the examination of a candidate for license to conduct the plumbing business, or to work at the trade as a journeyman, to join a local union, or to obtain appointment as plumbing inspector, it has become common practice to call upon such candidates, as a part of the examination, to correct one or more incorrect plumbing layouts or elevations. That being so, it seems only fair that prospective candidates for such examinations should be given some sort of training to fit them to pass that particular part of the examination. To furnish such training is a principal purpose of this series of articles.

There are generally three separate tests, (1) practical work, such as the wiping of joints; (2) the answering of a list of questions; and (3) the correction of incorrect plumbing layouts.

It is our experience that out of 100 points for the entire examination, about 30 points generally are allotted to the correction of drawings. This shows the importance, to those intending to take an examination, of the necessary knowledge and experience to meet this test successfully.

The problem we are to handle at this time is the incorrect drawing shown in Fig. 4, page 74 of the February issue of DOMESTIC ENGINEERING.

The number of corrected drawings received from readers is surprisingly large. It is interesting to note that they come from twelve different states, including Canada.

The discussion of these drawings follows:

In the case of Fig. 1, we wonder whether the maker of the drawing hasn't a much better knowledge of venting than his drawing seems to show. Many of the vents shown appear to be a sort of crown vent, and that sort of vent, of course, is long since outlawed. While the principal purpose of these problems is not so much to teach drawing as to teach plumbing practice, a correct knowledge of drawing will be found a wonderful help to any plumber. Therefore, to this correspondent we suggest the studying of the other drawings covering this problem for the purpose of using the knowledge thus gained in making out his next problem.

VENTING REFRIGERATORS AND FOUNTAINS

Connections for the refrigerators and drinking fountains are excellent, but the sink into which they discharge should be vented. The slop sinks are correctly vented but only the top-floor sink is vented, and that happens to be the only one in the three which does not require venting. The water closet vents are run flat. The vents should connect with sufficient pitch to allow condensation to flow back into the soil line.

There is very little to criticize in connection with Fig. 2, except the connections for the refrigerators and

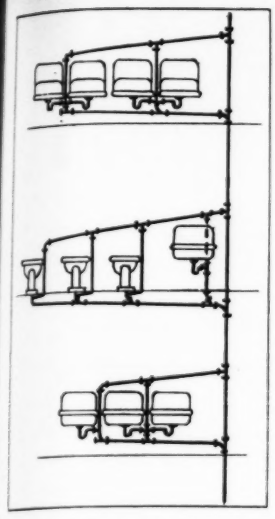


Fig. 4—Failure to connect groups of fixtures correctly

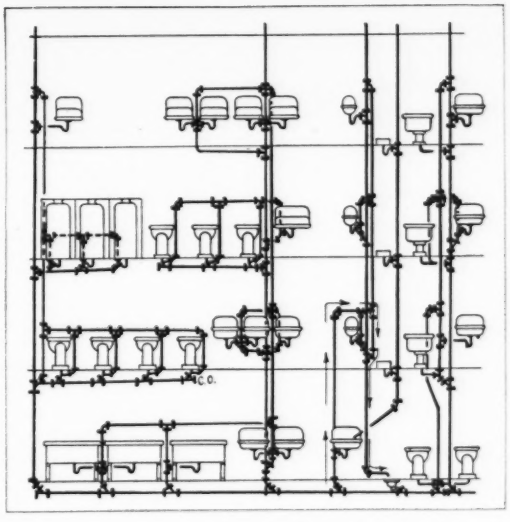


Fig. 5—This drawing is excellent but for the by-pass which is indicated by the arrows on the drawing

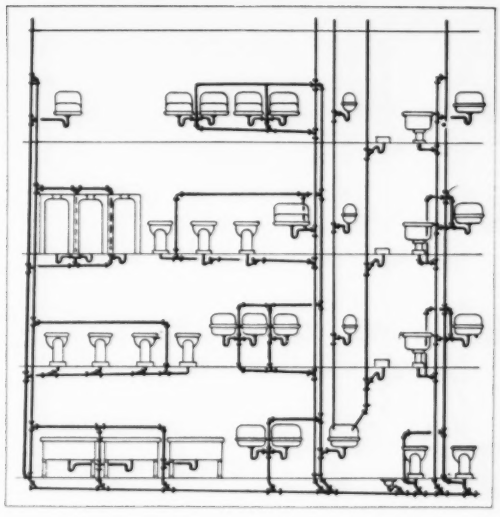


Fig. 6—Another excellent drawing except for the manner in which two of the sinks are vented

POINTS...

drinking fountains. Drinking fountains may be connected indirectly or directly, as other fixtures are connected. Therefore, there is nothing wrong as far as the drinking fountain connections are concerned. But refrigerators can never be connected in any other way than by an indirect connection. Fig. 6 shows exactly how a line of refrigerators should be connected. We can not see why the drinking fountain stack should not connect into the house drain in the usual manner, rather than into the cellar drain trap. Refrigerator traps are never vented, for there is nothing about refrigerator wastes that produce any danger from siphonage.

The top-floor fountain and sink should be stack-vented.

Fig. 5 is excellent except for the drinking fountains. They have an indirect connection to the cellar drain, and yet are vented. There is never need of venting traps that have an indirect waste, for such fixtures are not subject to the danger of siphonage, with entrance of sewer gas. However, when the vent from the cellar sink was connected into the main drinking fountain vent, it formed a by-pass, and this always happens in case of combination of direct and indirect wastes. The by-pass is shown by arrows.

Fig. 6 is excellent. About the only criticism we have to make is that two of the sinks have vents which are a type of crown vent. There is no reason for these fixtures not having regular continuous vents.

As interest among our readers increases, and larger numbers of corrected drawings are submitted, it becomes increasingly difficult to find space. As a result, we find it necessary in some instances to publish a single drawing to represent the drawings submitted by several different readers. When we do this, the drawing is not generally a full reproduction of any one drawing, but represents in general, the leading features of a group of two or more drawings. Thus, Fig. 7 represents in a general way, three layouts, submitted by F. W. H., Michigan, R. P. S., Texas, and T. A. N., New York.

There is not much to criticize. The refrigerators should be trapped. T. A. N. shows them without traps; the other two show traps.

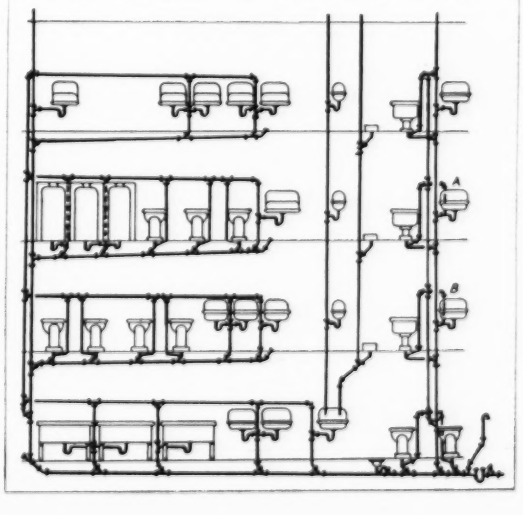


Fig. 7—The criticism here applies to the two fixtures marked "A" and "B." This is also true of Fig. 8

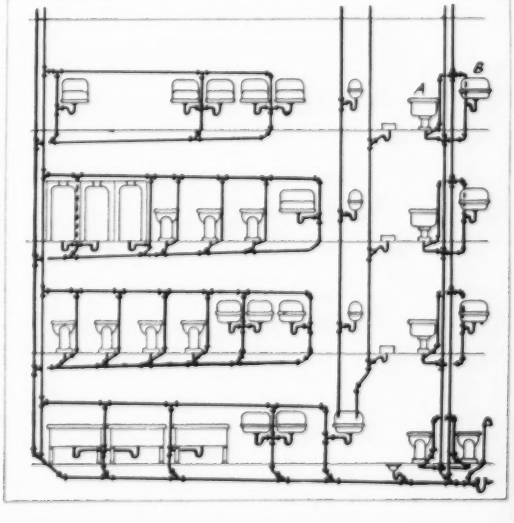
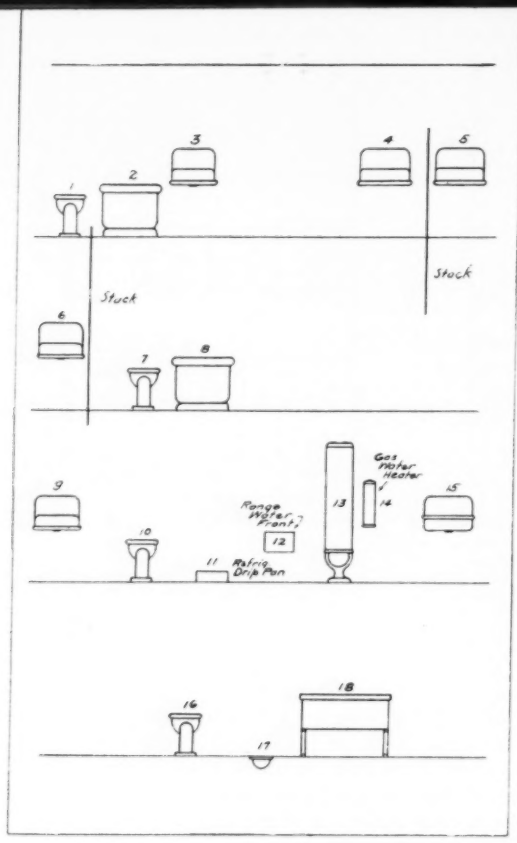


Fig. 8—At the right, this was one of the neatest drawings sent in. The main error is as noted in Fig. 7



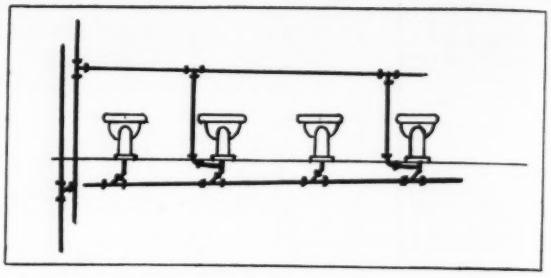


Fig. 9—At the left, another skeleton layout to be completed, using the indicated stacks

Fig. 10—Here is an unusual method of venting a battery of water closets

R. P. S. shows fountains and refrigerators connecting into one stack, while the other two show a separate stack for each. Either practice generally would be correct.

T. A. N. and F. W. H. show use of main trap and fresh air inlet correctly installed. F. W. H. uses an unusual method of venting a battery of water closets, as seen in Fig. 10. Every other water closet is vented. This would not pass. When water closets are installed with individual vents, each fixture must have its own vent.

F. W. H. connects the drinking fountain and refrigerator stacks together before passing through the roof, as shown in Fig. 3. There is nothing wrong about this. If the drinking fountain stack were connected directly into the drainage system however, it would be wrong. In that event, a by-pass would be created.

CORRECT VENT CONNECTIONS

R. P. S. has failed to connect groups of fixtures on three floors into a main vent stack. See Fig. 4. With this single exception, however, which may well be an oversight, his work calls for no further criticism.

One of the most correct layouts submitted is the one seen in Fig. 8, by G. D. H. W., Vermont.

The only criticism we have to offer is that the two top fixtures A and B, do not require separate venting. This criticisms also applies to Fig. 7. These fixtures should be stack vented.

Fig. 8 was also one of the neatest drawings sent in.

In Fig. 11 we present another drawing problem, answers to which will be published in a later issue of DOMESTIC ENGINEERING.

At the left of Fig. 11 is shown a plumbing elevation of an office building, in which are many mistakes. Use the skeleton drawing at the right, for making your corrected drawing. If you care to do so, lay the corrected drawing out on a larger scale, rather than to show it on the small drawing printed here, so that there will be no doubt as to the manner in which the connections are made. Make your drawing as clear as possible.

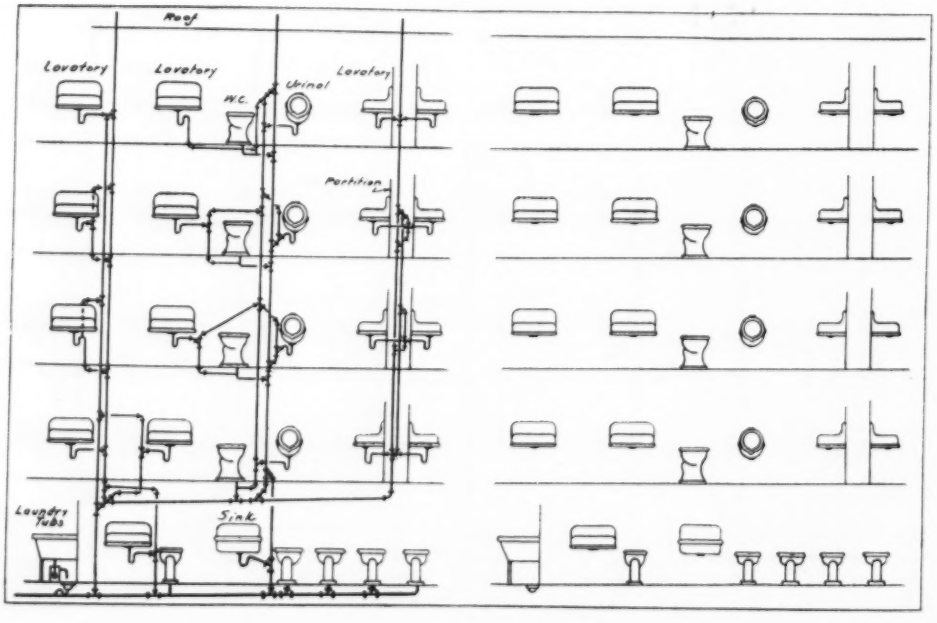


Fig. 11—A plumbing elevation of an office building; use the skeleton layout at the right to present your interpretation of the correct connections

34—

Design of Gravity Hot Water Systems

2. Arrange the piping for "upfeed" or "downfeed" as shown on sheets 13, 14, and 19.

3. Size the pipe in accordance with the load and height above the boiler. On small systems, such as for bungalows, etc., the "valve area" often is used on account of simplicity. In this method the area of each pipe is made equal to the sum of all the valve areas supplied by the pipe, the sizes of the valves being the same as the standard hot water radiator tappings which are as follows:

Up to 40 sq. ft. 1" supply and 1" return, area of valve 0.86 sq. ft.

Over 40 sq. ft. to 72 sq. ft. 1¼" supply and 1¼" return, area of valve, 1.49 sq. ft.

Over 72 sq. ft. 1½" supply and 1½" return, area of valve, 2.04 sq. ft.

Thus, the area of a pipe feeding two 30 sq. ft. radiators and a 60 sq. ft. radiator and two 80 sq. ft. radiators, is

$2 \times 0.86 = 1.72$
$1 \times 1.49 = 1.49$
$2 \times 2.04 = 4.08$

Sum of areas = 7.29 sq. ft. which is equivalent to a 3 in. pipe which has an internal cross sectional area of 7.39 sq. in.

35—

Design of Gravity Hot Water Systems

4. For larger systems several methods of pipe sizing are in use, some of which are quite complex. One of the simplest methods consists of using the following table for riser sizing and then determining the mains from the risers by the "factor" method.

RISER CAPACITIES—OPEN SYSTEMS

Radiator above Boiler—Ft.	5	15	25	35	45	55
Corresponding Floor	1st	2nd	3rd	4th	5th	6th
Riser and Radiator Valve	Sq. ft. E.d.r. Allowed (water)					
¾ in.	40	56	60	70	80	90
1 in.	70	80	90	100	110	120
1¼ in.	110	117	135	147	170	187
1½ in.	180	195	210	230	245	260
2 in.	300	375	450	500	575	659

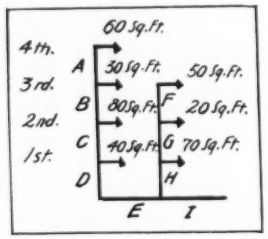
The factor method of main sizing consists of assigning a factor to each size of pipe and the factor for the main must equal the sum of the factors of all pipes supplied. The factors used are ½" = 2, ¾" = 5, 1" = 10, 1¼" = 20, 1½" = 30, 2" = 60, 2½" = 110, 3" = 175, 4" = 380, 5" = 650, 6" = 1050, and 8" = 2250.

Published by DOMESTIC ENGINEERING

These pages containing reference tables are arranged in this form so that they will be convenient to handle. They combine information found in standard text books with that obtained in practical work. The series will be added to each month until completed.

Design of Gravity Hot Water Systems

As an example of the application of the factor method, let it be used on the two risers shown.



From the table on "riser capacities" (sheet 35) it will be seen that 60 sq. ft. on the 4th floor, requires a ¾ in. pipe for "A"; at the 3rd floor, the riser carries 60 sq. ft. +30 sq. ft. = 90 sq. ft., and from the table "B" is seen to require a 1 in. pipe. "C" has a load of 60 sq. ft. + 30 sq. ft. + 80 sq. ft. = 170 sq. ft. = 1½ in. pipe. "D" carries the whole riser load of 210 sq. ft. = 2 in. pipe. Similarly on the second riser "F" = 50 sq. ft. = ¾ in., "G" = 70 sq. ft. = 1 in. and "H" = 140 sq. ft. = 1½ in.

The size of "I" is obtained by adding together the **factors** for "E" (which is same as "D") and "H" or 60 + 30 = 90 factor (see sheet 35) and the smallest pipe which has a factor of 90 or over is seen to be 2½ in. whose factor is 110. Therefore "I" = 2½ in.

Additional risers increase the size of main as they add their factors; thus another riser with a factor of 110 would increase the main factor to 90 + 110 = 200 factor = 4 in.

Design of Gravity Hot Water Systems

In computing the heating surface required for a hot water system, the same method is used as for steam heating except that the net Btu. loss (sheet 24, item 7) is divided by 150 (instead of 240) in order to get the e.d.r. required.

Note—The above is based on water passing through the radiator at an average temperature of 170 degrees. If a closed system, or other means, is employed so that higher water temperature can be used, the heat emission per sq. ft., e.d.r., will be increased as follows:

Av. Water Temp. in Rad. (degrees)	Heat Transm'n. (Btu. per sq. ft.)
170	150
180	170
190	190
200	210
210	230
220	250
230	270

Published by Domestic Engineering

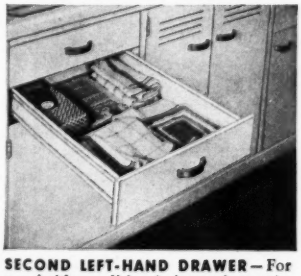
There's a place for all these things—

in the "Standard" HOSTESS Sink

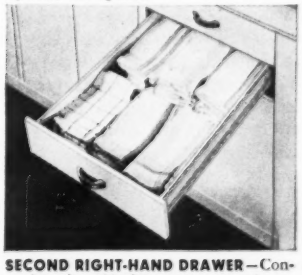
TOP LEFT-HAND DRAWER—Brushes, rubber gloves, cleaning clothes, steel wool.

TOP RIGHT-HAND DRAWER—For apple corer, kitchen cutlery, bottle opener, can opener.

Shown here are all the things that can be placed in the "Standard" HOSTESS SINK as recommended by Kitchen Planning Experts.



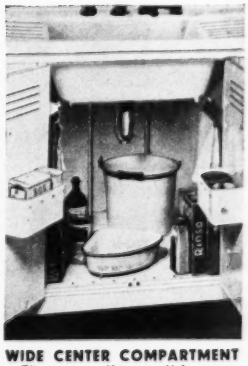
SECOND LEFT-HAND DRAWER—For pot holders, dish cloths and towels.



SECOND RIGHT-HAND DRAWER—Convenient for 2½ dozen extra towels.

LEFT-HAND COMPARTMENT—There is plenty of room here for vegetable pans, double-boilers, colanders and strainers.

AMPLE KNEE-ROOM—With doors open, there is convenient knee space when sitting before sink.



WIDE CENTER COMPARTMENT—Cleansers, silver polish, soap flakes and cleansing pail. Sliding racks on each side for towels.

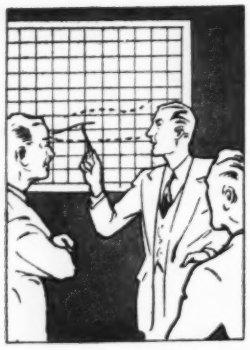
BOTTOM RIGHT-HAND COMPARTMENT—Roasting, layer cake and cookie pans, also small electrical appliances.

Copyright 1937, S. S. Mfg. Co.

Standard Sanitary Mfg. Co.

PITTSBURGH, PA.

Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION



Business

Curve Now At 133.12 . . . **Metal Prices Rise . . .**

Upward Trend Continues

- *Curve stands at 133.12—an increase of 33.12 over last year. All items advance except cast iron boilers*

During February, the plumbing and heating industry continued its upward trend with a gain of 33.1 per cent over the same month of last year. January shipment figures are now available and they show that all items in the field advanced over last year during that month, with the exception of cast iron boilers. Since cast iron radiation and steel boilers both showed increases over last year, the indications are that this is a temporary recession on the part of cast iron boilers.

Although no specific price advances were mentioned for the month, reports indicate that the trend continues upward. In this report, there is a chart that shows the trend in the prices of basic metals used in this industry. With the exception of tin, this trend has been upward since October, 1935. Since October of 1936, however, the trend has been sharply upward for all of the basic metals. If this uptrend on the part of metal prices continues, and a good many authorities think that it will, further advances in the prices of plumbing and heating products will be inevitable.

Key Wholesalers

With the reports available from 100 wholesalers, an average gain of 33.1 per cent is shown in February over the same month of last year. When figures for January and February are combined the average gain over last year is 32.35 per cent.

Seventy-two of these firms expect March to continue to show improvement over the same month of last year, 21 expect it to be about the same as last year, while only one expects a decline and the other six did not comment.

New England States: With eight wholesalers reporting in this section, an average gain of 66.11 per cent was shown in February over the same month of last year and an average gain of 49.08 per cent for the first two months of this year over the same period of last year. Six of these firms expect March to show further improvement over last year and the other two expect it to be about the same as last year.

A Rhode Island wholesaler reports that they enjoyed such an unusually large volume of business in January and February that they cannot see how March can show less than a 40 per cent improvement over last year.

Middle Atlantic States: Forty-two wholesalers report an average gain of 27.64 per cent in February over the same month of last year and an average gain of 32.91 per cent for the first two months of this year over the same period of last year. Twenty-eight of these firms expect March to show continued improvement over last year while ten expect it to be about the same as last year and the other four did not comment.

A Westchester County wholesaler reports that they expect a further improvement in March because the open winter has been permitting new construction to go ahead earlier than usual.

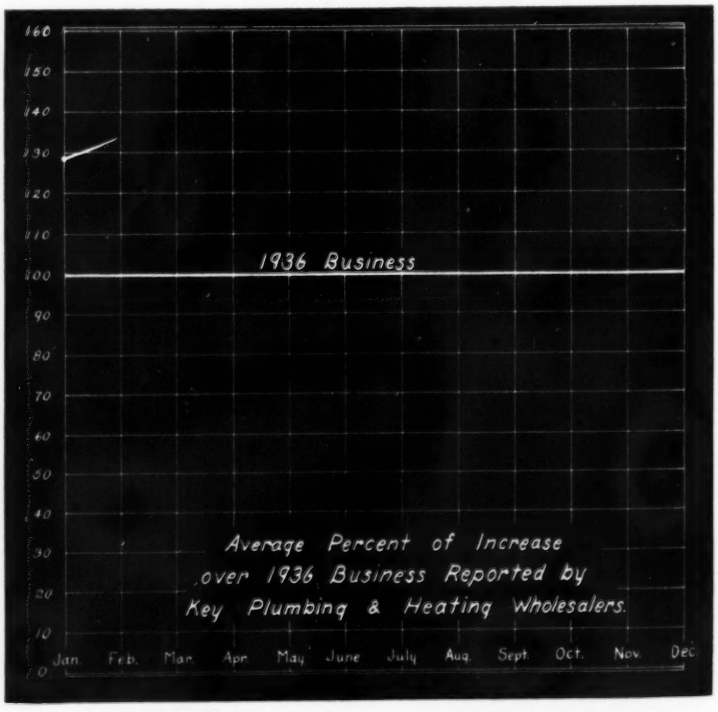


Chart stands at 133.12 which is an increase of 33.12 over 1936

SHIPMENTS OF PLUMBING AND HEATING ITEMS

	Jan. 1937	Jan. 1936	Total 1936	Percent of Change— Jan. '37 Jan. '36
Cast Iron Boilers Thousands of Pounds	15,859	16,906	305,791	— 6.19
Cast Iron Radiation Thousands of Ft. of Heating Surface	4,572	4,183	77,675	+ 9.29
Steel Boilers Number of Units	682	634	10,806	+ 7.58
Domestic Water Systems Number of Units	15,340	10,760	156,321	+42.56
Range Boilers Number of Units	103,185	77,344	1,010,962	+33.41

A similar report comes from a New York City wholesaler. Another New York City wholesaler states that they not only look forward to a substantial increase in March but feel that their profit margin will widen because all of the cheap material has been used up.

A Pennsylvania wholesaler reports that they expect further improvement in March with more industrial activity, larger payrolls and a general betterment of business. This same wholesaler states that practically every state institution will receive substantial allowances for increased facilities during 1937.

A northern New Jersey wholesaler reports that their shipments and billings in the first 8 days of March was far ahead of last year. This same wholesaler reports that the removal of any major possibilities of a strike in the steel industry seems to make way for stabilization of the labor picture and if prices don't go too high, 1937 will be a banner year. A central Pennsylvania wholesaler reports that conditions in his territory are temporarily slowed up due to a hosiery strike.

South Atlantic States: Ten wholesalers in this section report an average gain of 27.64 per cent in February over the same month of last year and an average gain of 32.91 per cent for the first two months of this year over the same months of last year. Seven of these firms expect March to continue to show improvement over last year, two expect it to be about the same and one expects a decline.

A North Carolina wholesaler reports better business anticipated for March because the weather is clearing, more building permits being issued and because of the extension of F.H.A. Title No. 2. This same wholesaler reports that a 3 per cent sales tax on all building materials was recently imposed in this state.

A Virginia wholesaler reports an increase anticipated due to increased building. The one wholesaler in this section expecting a decline in March states that this is anticipated because of the reaction to the flood. This wholesaler is located on the Ohio River.

East North Central States: Eighteen wholesalers in this section report an average gain of 32.50 per cent in February over the same month of last year and an average gain of 32.42 per cent for the first two months of this year over the same period of last year. Fifteen of these firms expect March to continue to show improvement over last year, two expect it to be about the same and the last did not comment.

A Cincinnati wholesaler reports that the flood in this district slowed down business and that rehabilitation will require much new material.

East South Central States: Four wholesalers in this section report an average gain of 37.50 per cent in February over the same month of last year and an average gain of 31.25 per cent for the first two months of this year over the same months of last year. One of these firms expects March to continue to show improvement while two expect it to be about the same and the fourth did not comment.

A central Tennessee wholesaler reports that the price situation is bad in their section. Another central Tennessee wholesaler reports that there was a larger increase in residential building this year than last in their territory. Because daily rain and local floods interfered with building operations in January and February, contractors are now rushing through the delayed work.

West North Central States: Six wholesalers in this section report an average gain of 18.18 per cent in February over the same period of last year and an average gain of 21.50 per cent for the first two months of this year over the same period of last year. All six of these firms expect March to show improvement over last year.

A Kansas wholesaler reports that unfavorable weather conditions slowed up February business.

West South Central States: Three wholesalers in this section report an average gain of 20.27 per cent in February over the same month of last year and an average gain of 24.70 per cent in the first two months of this year over the same months of last year. All three of these firms expect March to show continued improvement over last year.

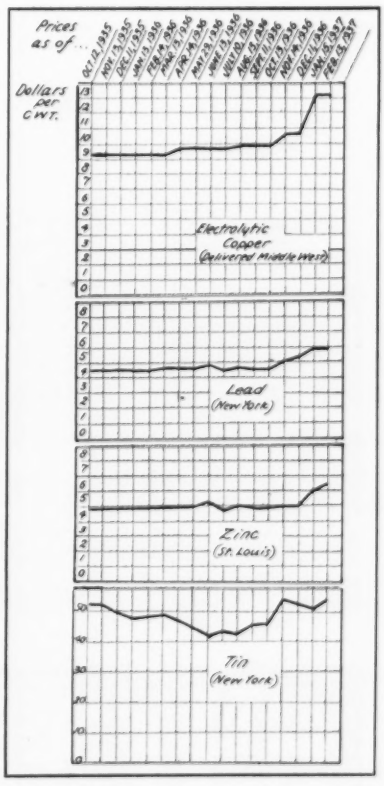
A Dallas wholesaler reports that general business is steadily improving in his section of the country.

Mountain States: Four wholesalers in this section report an average gain of 25.75 per cent in February over the same month of last year and an average gain of 19.75 per cent for the first two months of this year over the same period last year. Two of these firms expects March to show further improvement over last year and the other two expect it to be about the same as last year.

Pacific States: Five wholesalers in this section report an average gain of 34 per cent in February over the same month of last year and an average gain of 32.45 per cent in the first two months of this year over the same period of last year. Four of these firms expect March to continue to show improvement while one expects it to be about the same.

Air Conditioning

With reports tabulated from 51 utilities, February summer and year round air conditioning installations were 67.52 per cent ahead of last year in number and 52.10 per cent ahead in horsepower. There were 196 installations with a total of 7,816.16 horsepower in February of 1937—which compares with 117 installations and 5,138.79 horsepower in the same month of last year. The run-



Trend of prices of basic metals—copper, lead, tin and zinc

SCOVILL-

M-VB DIVISION'S TRU-GRIP

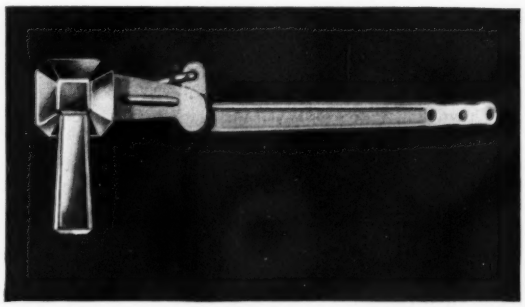
A New Feature on All M-VB Closet Tank Levers

ONCE you set an M-VB Tank Lever true and square, it will remain fixed and work smoothly because we have rubberized the hanger lug to assure a true friction grip on the inside wall of the tank.

Now, regardless of an uneven tank wall or an oversized hole for the hanger lug, there will be no slipping, no change of alignment from the true operating position. Simply place the hanger in proper position, slip the rosette shank through and tighten the lock-nut.

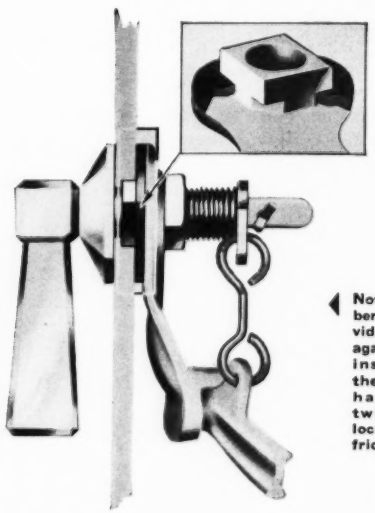
No more broken tanks because that extra twist of the wrench to guard against the lever working loose is unnecessary. Simply make friction tight.

NO EXTRA COST In order to further the M-VB reputation for quality merchandise, we have decided to assemble ALL M-VB Levers with this Tru-Grip feature at no extra cost to you. Ask your jobber for details or write to any of the addresses below for information on the whole M-VB line.



Using the M-VB exclusive, smooth, double-acting mechanism with cast-brass hanger and lever arm, this lever presents a very pleasing appearance with its all-metal handle and rosette chromium plated. Design is simple, yet artistic, and adds a note of beauty and distinction to any tank on which it is assembled. The shank, as on all M-VB Tank Levers, is equipped with a Tru-Grip rubberized hanger. Model illustrated is "S" type.

All M-VB Levers are given careful inspection. A final check of the assembled lever is made just before packing.



Note that the square shank is undercut where it joins the hanger. The round rubber washer is held in place before the lever is installed. Cannot be shaken off and lost.

Note how the rubberized hanger provides a friction grip against the smooth inside surface of the tank wall. The hanger cannot twist when the lock-nut is made friction tight.

COMPLETE STOCKS OF M-VB CLOSET TANK FITTINGS CARRIED AT STURGIS, MICHIGAN; SAN FRANCISCO AND LOS ANGELES, CALIFORNIA; AND WATERVILLE, CONNECTICUT

EXTRA QUALITY IN

FOR PLUMBERS' BRASS GOODS

SCOVILL'S WATERVILLE DIVISION MAKES:

Traps, Supply Pipes, Bath Wastes, Showers, Sink and Tray Wastes, Flush Valves, Brass Pipe, Copper Tube and Miscellaneous Plumbers' Brass Goods

WASTE AND OVERFLOW • BRASS PIPE—COPPER TUBE

1. Place conical rubber washer in recessed section of metal flange, tapered portion up.

2. Place assembled metal flange and rubber washer against rounded surface of top elbow, metal to metal.

3. Insert chain-stay through strainer to top elbow and screw up shank.

Scovill Bath Wastes can be installed in 1-2-3 order. In addition to the usual adjustable features usually found on all wastes at the bottom tee, Scovill has incorporated a ball-shaped top elbow or tee that simplifies alignment on practically any pitch of tub. The illustrations on the left show just how this is arranged, and the installation is just about as simple as looking at the pictures. The ball-shaped top elbow, bearing against the flat surface of the metal flange, is centered in the overflow hole of the tub. A cone-shaped rubber washer assures this. Simply insert the chain-stay through the hole in the strainer to the elbow and screw up tight. A patented feature found on Scovill Bath Wastes.

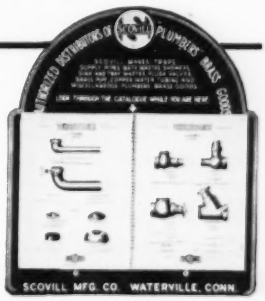
•

DON'T FAIL TO SEE the Scovill exhibit (Waterville, M-VB and Main Plant Divisions) at the 1937 Home Comfort Exposition in Atlantic City, N. J., May 24 — 27.

of consistently high quality and uniformity. For details, write Scovill Manufacturing Company, Waterville Division, Waterville, Conn.

Alloyed with every melt of metal for Scovill Brass Pipe is just sufficient lead to produce the free-cutting, perfect-threading properties which mean speedy installation on the job. Strict laboratory control from the making up of the melt before casting to the final inspection guarantees quality.

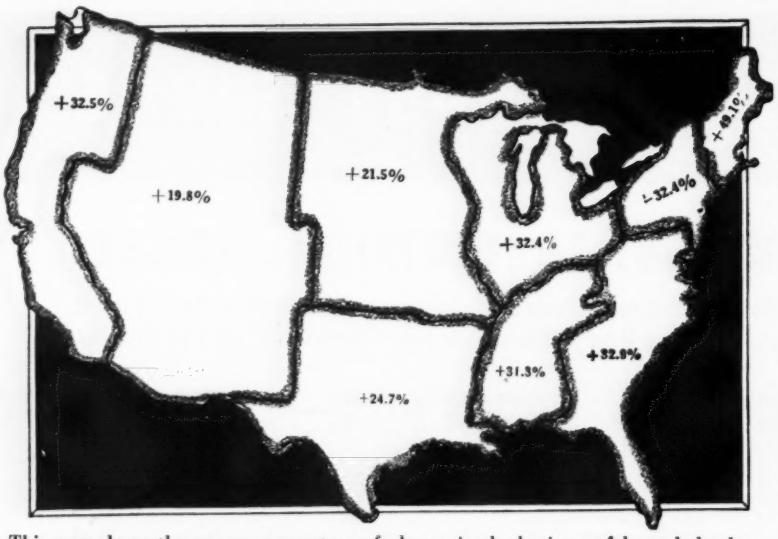
Scovill OFHC Copper Tube is made from copper produced by a special process (patents pending in U. S. and foreign countries), which involves melting and casting under most rigid control, so that the tube billets produced are



SCOVILL

Look for this Metal Display Stand and catalogue at your authorized Scovill Distributor's. We will be glad to send you the catalogue alone on request. Write to the Waterville Division, Scovill Manufacturing Company, Waterville, Conn.

SCOVILL PRODUCTS



This map shows the average percentage of change in the business of key wholesalers in each section of the country for the first two months of 1937, as compared with the same period of 1936.

KEY WHOLESALERS

	Pct. of increase as compared with the same month of last year	Pct. of increase for first 2 months of this year as compared with the same period of last year	Prospects for next month compared with same month of previous year appear				
			Better	Same	Worse	No Comment	Total Reports
New England	78.02	57.24	3	2	0	0	5
Middle Atlantic	28.47	27.51	26	10	0	2	38
South Atlantic	27.16	34.90	6	2	1	0	9
East North Central	34.78	34.18	14	2	0	1	17
East South Central	37.50	31.25	1	2	0	1	4
West North Central	23.32	27.80	5	0	0	0	5
West South Central	20.27	24.70	3	0	0	0	3
Mountain	19.33	16.33	1	2	0	0	3
Pacific	21.67	18.08	2	1	0	0	3
Total			61	21	1	4	87

ning total for the first two months shows a gain of 124.6 per cent in the number of installations and a gain of 139.1 per cent in horsepower for these same utilities. The number of installations for the two months of this year was 420 and the horsepower 20,843.86. For the same period last year, 187 installations were made with a total of 8,716.59 horsepower.

Oil Burners

Oil burner permits for 45 cities totaled 1,895 in February as against 1,391 in the same month of last year—a gain of 36.2 per cent. The running total for the first two months in these same cities was 4,287 permits as against 3,399 in the same two months of last year—a gain of 26.2 per cent.

Stokers

Stoker permits in 18 cities showed a decline of 22.3 per cent in February from the same month of last year. Since permits ordinarily are issued only on the larger installations, this figure has little bearing on the situation with the smaller type stokers. The actual figures in these 18 cities were 197 permits in February, 1936, which figure dropped to 153 in February of 1937. The running total for the first two months in these same cities showed a gain of 8.90 per cent over last year. 441 permits were issued in the first two months of '37 as against 405 in the same period of last year.

Metal Prices

(Prices as of March 31, 1937)

New Metal Market—Domestic—Strong. Foreign—Strong.

Electrolytic Copper—$17.125/17.50, Delivered Middle West.

Lead—$6.85 cwt., St. Louis; $6.95/7.00 cwt., New York.

Ingot 5 lb.—$7.50, St. Louis.

Zinc—$7.50 cwt., St. Louis.

Tin—$65.00 cwt., New York.

Brass Ingot—85/5/5/5, $17.25 -c/1; $17.50 LCL Delivered.

Yellow Ingot—68/1/3/28, $13.00 -c/1; $13.25 LCL Delivered.

Scrap Metal (Dealers' Buying Prices)

Composition and steam brass—$11.00/11.50 cwt.

Strictly Heavy Yellow Brass Scrap, Cast—$8.00/8.50 cwt.

Mixed, strictly cocks & faucets (incl. ball cocks, etc.)—$9.00/9.50 cwt.

Light Brass, tubes, pipe, old sheets, etc.—$7.50/8.00 cwt.

Old scrap lead pipe, etc.—$6.00 cwt.

Copper, sheathing and roofing, free of nails—$11.00/11.50 cwt.

Copper, boilers, tanks and other light materials—$11.50 cwt.

Soldered joints—Nominal, cwt., f. o. b. Chicago.

Block Tin—$50.00 cwt., f. o. b., Chicago.

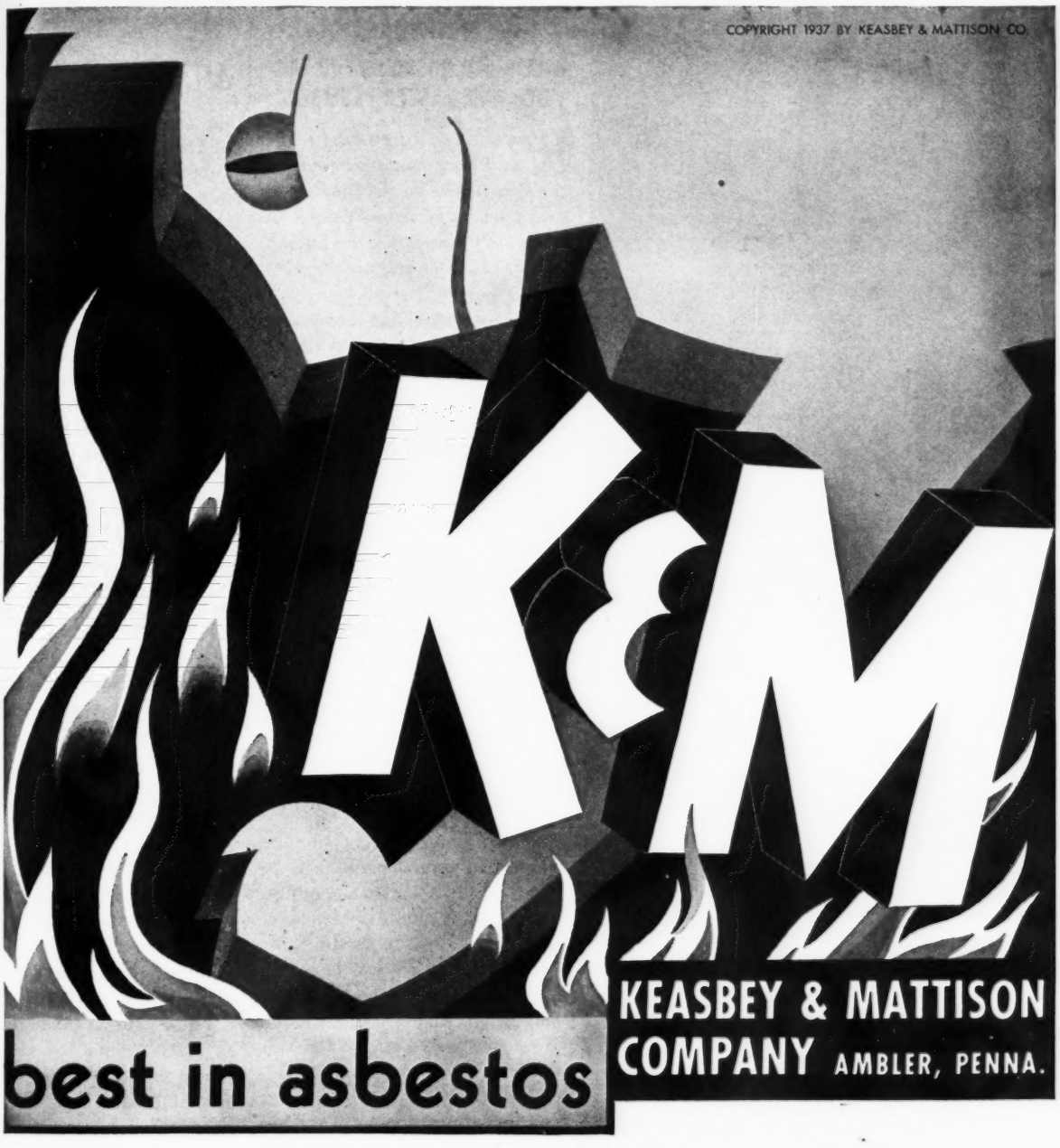
Title I Ended

- *National Housing Act Title I expires; FHA to improve housing standards and conditions*

A release from the Federal Housing Administration has indicated that with the expiration of Title I of the National Housing Act at midnight March 31, the emergency phase of the Federal Housing Administration activities have come to an end. From now on, according to Administrator Stewart McDonald, FHA will be free to concentrate its efforts on the long range objectives of its program, the improvement in housing standards and conditions, and the maintenance of a sound system of home finance.

Nearly 1,000,000 homes have been improved with the proceeds of notes insured under the modernization credit plan. In addition, 250,000 two-family houses and apartments have been improved by such loans, as well as 150,000 other properties, including business and industrial buildings, hotels, hospitals, orphanages, colleges, churches and farms. Originally $200,000,000 was made available by Congress for losses on modernization and repair loans insured under Title I. This amount was reduced at the last session of Congress to $100,000,000. It is thought after all claims for insurance under Title I have been liquidated at least $75,000,000 of the amount available for such losses will not be needed.

It has been estimated that the Better Housing Campaign sponsored by the Federal Housing Administration has generated over $1,000,000,000 worth of modernization and repair work which does not show in the records.



You know Keasbey & Mattison provides a complete line of Asbestos and Magnesia products that are recognized as leaders in their field. For more than 60 years we have pioneered in the development of insulation materials . . . and the result is outstanding durability and uniformity. They are sold only through established channels of distribution.

Some of the K & M Products that can make your place of business the Insulation Headquarters of your community:

Asbestos Aircell Insulations in sections and blocks
Woolfelt Pipe Insulations
"Featherweight" 85% Magnesia Pipe Insulation and Blocks
Asbestos Insulating Cements
Asbestos Paper and Mill Board
Asbestos Packings and Gaskets
Range Boiler Jackets
Asbestos Lead Joint Runners

Watch these Vital Organs
NO NEW PARTS FOR SALE !
BY BETTY LOU WILLIAMSON, Registered Nurse
During my nurse's training a doctor graphically illustrated the importance of our vital organs by comparing them to the motor of an automobile. Then I saw clearly that the human machine just won't run properly unless these vital organs are in perfect working condition.
He reminded me that I have just one stomach, just one alimentary tract, just one pair of kidneys, just one heart, just one pair of lungs and just one "all the others."
He warned me that I should take especial care of them because—and he said it very convincingly—there are "no new parts for sale."
He opened my eyes when he told me how utterly dependent any one of these vital organs is on the proper functioning of another, and what would happen if each one didn't function properly in relation to the others.
He told me of the value of hydrotherapeutics. Of course, I had learned all that in my earlier training but he emphasized the preventive value of complete cleanliness and told me why complete cleanliness is a definite aid to glowing, glorious health.
He reminded me that the entrance to some of these vital organs is the mouth, and asked if I had ever given much thought to what happened to everything we put into our stomachs.
He told me of other excretions of the human body that few people recognize as waste material and of what to do with them to keep these vital organs healthy and completely clean.
I shall never forget how he pointed his finger at me and said: "Remember, your body is a gift from God. Most of us accept it as we do glass in a window or steam in a radiator or sunshine or rain and then proceed to take better care of our automobiles or our radios or our oil burners than we do of our bodies. But the market is full of new automobiles, radios and oil burners, yet you have never seen a new body you could buy and claim it and use it for your very own—not even a new part—so take care of the one you have. You can't offer nature an excuse for neglect. Results are the only things that count. Do everything you can to promote glowing, glorious health."
You probably contribute part of the millions of dollars that are spent yearly on exterior beauty. Rightly so. So do I. But the basis of all true beauty comes from the interior. It is the basis of glowing, glorious health. Most men demand more than outward beauty, they instinctively demand complete cleanliness—wholesome sweetness.
Cultivate glowing, glorious health, wholesome sweetness, and you will have a genuine beauty base that won't wash off, rub off or tarnish. You will fairly radiate good health, beauty and friendship. Your whole personality will improve. You will attract new friends and hold your old ones without knowing why.
The Nu-Bidet is a promoter of complete feminine and masculine hygiene—and, make no mistake—that is a great aid to glowing, glorious health.
The Nu-Bidet is connected with both hot and cold water. Douche and enema attachment with medication chamber, slight additional cost, eliminates old rubber bag. Cost—approximately $67.50—is nothing, compared to health dividends you get. DEFERRED PAYMENTS IF YOU WISH. Installed in less than two hours; no tearing up of plumbing; take it with you if you move.
So I pass this message on to you and ask you to write for my beautiful brochures, "Your Answer to a Long Felt Need" and "I Dare to Speak," which will tell you many things you should know.
WHAT IS THIS NU-BIDET? READ THIS!
The Nu-Bidet
KLEENSAN CORP., 341 Park Avenue, New York, N.Y. P.N.-2
Send free, without obligation, brochures: "Your Answer to a Long Felt Need" and "I Dare to Speak."
Name
Address
Name of Retail Plumber
Address

KLEENSAN CORP., 341 Park Avenue, New York, N. Y. 4-R-7

Send free, without obligation, brochures: "Your Answer to a Long Felt Need" and "I Dare to Speak."

Name_____

Address_____

Name of Jobber_____

Address_____

Jobber ☐ Retail Plumber ☐ Consumer ☐ Architect ☐

KLEENSAN CORPORATION LAUNCHES CONSUMER CAMPAIGN

WILL BUILD BUSINESS FOR JOBBER AND MASTER PLUMBER

KLEENSAN CORPORATION of New York, manufacturers of the Nu-Bidet, have launched a consumer advertising campaign to create business for the jobber, master plumber and architect.

Last month a reproduction of the first advertisement was shown. A reproduction (reduced) of the second advertisement is shown on the left of this page. This advertising will be read by from ten to thirteen million people and it seems perfectly logical that some of these readers are bound to be your customers or prospects for you.

It is worthy of note that the merchandising of most of the new items that are brought onto the market is left to the jobber and master plumber and architect. But here is a company that is going about a job of creating consumer demand that should build business for all of these legitimate trade outlets.

It is also interesting to note what consumer demand will do once the customer gets in a buying mood. In one case a master plumber sold a Nu-Bidet for $67.50 and when it was installed, everything else in the bathroom looked old-fashioned and the job developed into $785. When this was completed, the plumber modernized the other two bathrooms and the kitchen to a total of more than $3,000, or 46 times the amount of the original sale.

Many jobbers, plumbers and architects can well afford to look into an item that has such possibilities.

WHAT IS THE MYSTERY THAT MAKES ONE CUSTOMER SELL ANOTHER?

APPARENTLY there is a great deal of talk about the fact that one Nu-Bidet sells another and that it sells other things such as whole new bathrooms, kitchens and such, as well.

Recently, a lady in New York had her plumber install a Nu-Bidet. Proud as Punch, she gave a bridge party and when, during the afternoon, one of her guests sought out the bathroom, she asked about the new fixture. That started the discussion, and four sales resulted. Each one to a different plumber, by the way. One lady talks of starting a modernization job, so of course, that will bring in the architect.

Possibly it may have been the desire to keep up with a friend that prompted the first one to order a Nu-Bidet.

Or it may have been the urge to be one of the first with something new and vitally necessary. We all like to be first, you know.

Or perhaps it was the realization of what complete cleanliness would mean to both her and her husband.

Or it may have been, as one of them so aptly remarked: "Why hasn't someone thought of a Nu-Bidet before?"

But after all, what does it matter what the reason was? If there is a new item on the market with as much "*news*" as that in it, where one customer sells another and still another, why worry about the reason, so long as it sells at a profit—and in many instances sells other things as well?

That very thing could happen to *you*. You can't tell where lightning will strike. Why not find out more about this Nu-Bidet?

The Nu-Bidet (BEE-DAY)

KLEENSAN CORPORATION • 341 Park Avenue • New York

Supply

News of Men . . . Meetings . . . Companies . . .

Oil Burner Exposition

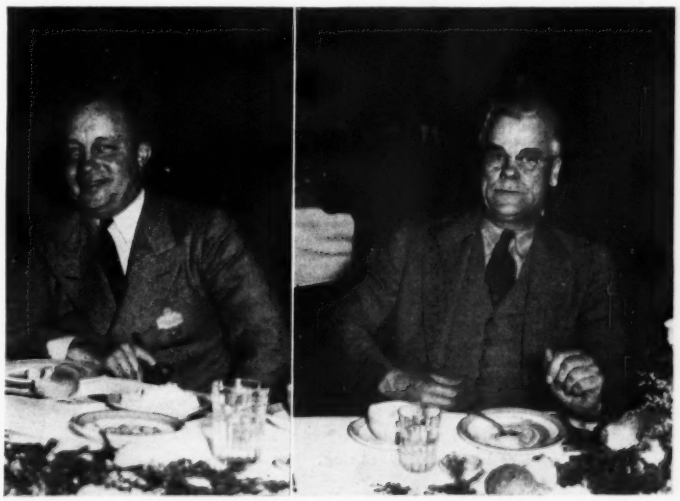
- *National Oil Burner and Air Conditioning Exposition held at Commercial Museum in Philadelphia, March 15-19—Charles N. Lockwood elected to presidency*

With one of the largest registrations in its history, the Oil Burner and Air Conditioning Exposition was held at the Commercial Museum, Philadelphia, March 15 to 19. Air conditioning was stressed to a great extent at the meetings. At the meeting of the board of directors, which was held on the fourth day of the convention, Charles N. Lockwood, general sales manager, Nu-Way Corp., Rock Island, Ill., was elected president. New directors of the Oil Burner Institute elected at the annual meeting included: A. E. Knapp, Nash-Kelvinator Corp.; and J. A. Lattner, Century Engineering Corp. Re-elected directors were: J. H. O'Brien, Petroleum Heat and Power Corp.; J. H. Van Schuyler, Bethlehem Foundry and Machine Co.; Lawrence L. Knapp, York Oil Burner Co., Inc.; and S. C. Houghten, Gilbert & Barker Mfg. Co.

The annual meeting of the Associate Membership Group was held on the last day of the exposition. J. R. Murphy, vice president of Taco Heaters, Inc., was chairman of this group and W. R. Rich acted as secretary. At the end of the meeting, W. R. Rich was elected chairman for the coming year and E. N. McDonnell was elected secretary.

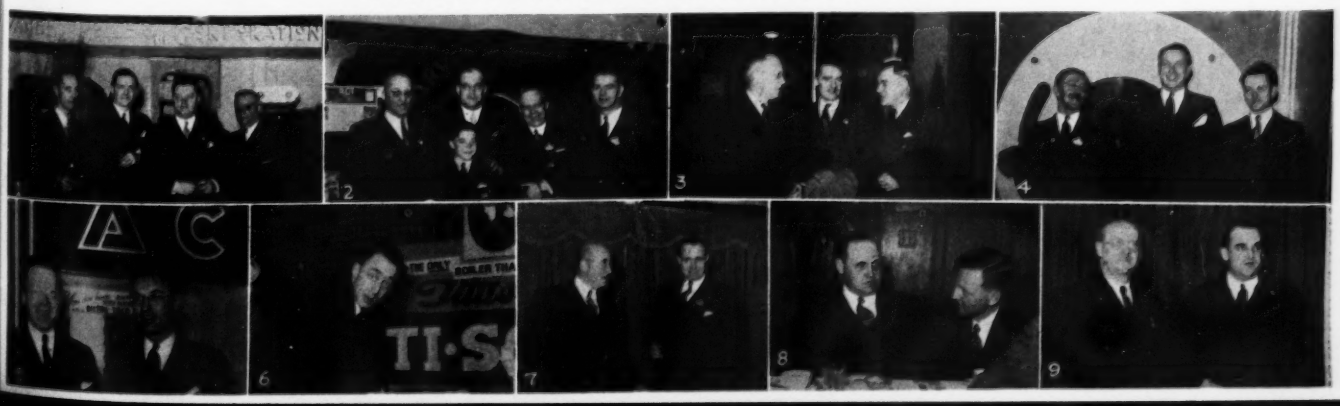
Members of the Oil Burner Institute attended a wide range of meetings starting with the executive committee and board meeting on the first day.

W. F. Brannan, retiring president, and C. N. Lockwood, newly elected president of Oil Burner Institute



The engineering and technical session sponsored by the technical research committee was held on the morning of the second day. Dr. D. T. Goodwin, manager of the fuel oil sales depart-

1. Leonard F. Heintze, manager, Philadelphia branch, Ben H. Schulze, eastern sales manager, New York, Curtis H. Wells, Philadelphia, A. P. Hare, all of Kewanee Boiler Corp., Kewanee, Ill. 2. W. O. Harvey, president, G. H. Bork, vice president, Ray G. Whipple, treasurer, F. R. Swayne, vice president, and George Bork, Jr., all of Harvey-Whipple, Inc., Springfield, Mass. 3. M. F. Robbins, Boston, J. G. Quist, Philadelphia, Ralph S. Beale, sales manager, heating and conditioning division, Norge Corp., Detroit. 4. Lawrence L. Knapp, vice president and sales manager, Stanley Wojik, divisional sales manager, New York, Al Raver, assistant to vice president, all of York Oil Burner Co., Inc., York, Pa. 5. Joseph R. Murphy, vice president, P. R. Tyler, both of Taco Heaters, Inc., New York. 6. R. J. Reed, sales manager, Titusville Iron Works, Titusville, Pa. 7. A. R. Hanson, secretary, John Lehmann, sales manager, Waterfilm Boiler Co., Jersey City, N. J. 8. Harry A. Powers, Timken Silent Automatic Division, Timken Detroit Axle Co., Detroit, F. A. Eldean, assistant to the president, American Petroleum Institute. 9. John Landerman, Louis S. Cooper, sales manager, both of Gerstein & Cooper, Boston, Mass.



AMERICAN RADIATOR

Parade of Products IN A PROFIT PARADE for You!

New American Radiator products to lead your profit parade . . . to help you get good jobs right now . . . to replace old heating with complete conditioning systems. Famous for quality, workmanship, dependability. Easy to sell . . . on easy terms provided by the Heating & Plumbing Finance Corp. Get the facts – get in line – It's Your Profit Parade!

SENSATIONAL SALES FEATURES OF THE NEW "LUCKY 7" IDEAL BOILER USED IN *New* AMERICAN RADIATOR CONDITIONING SYSTEMS

AT LAST, THE UNIVERSAL BOILER – high efficiency with any fuel. Easily converted to automatic heating with stoker fired coal or oil.

MAXIMUM EFFICIENCY. Large effective heating surfaces; largest grate area for boiler capacity; low draft tension; no soot-catching crevices; new flue design . . . all mean quick, low cost heat.

LASTING EFFICIENCY because of ground, iron-to-iron surfaces between sections, on all door contacts and smoke hood. Permanent protection against leaks. Double gallery flues that will not clog.

UNUSUALLY QUICK PICK-UP as a result of small water content and large water-backing of heating surfaces.

QUICKLY INSTALLED due to many time-saving features, such as quick assembly base and screwed-in Taco Heater.

For full information write to

AMERICAN RADIATOR COMPANY

Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

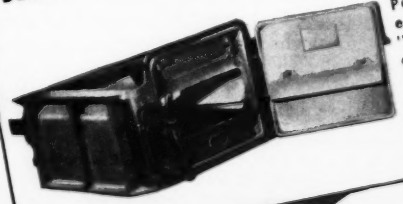
40 West 40th Street, New York, N. Y.

LISTEN IN! American Radiator Fireside Recital every Sunday Night, 7:30 E.S.T., WEAF-NBC Network

EXTRA EQUIPMENT THAT MAKES EXTRA SALES

Dustless, Labor-saving Ash Removal

No more "shoveling-out" dusty, dirty ashes. The new Arco "Ash Pan", special equipment for the "Lucky 7", at slight extra cost, slides in and out its special base, permitting dustless ash removal.



STREAMLINED RADIANT RADIATOR—Newly styled – completely concealed. Provides Corrected Heat from upper grille and Soothe Radiant Heat from new radiant panel – the right combination for greatest personal Comfort.

No. 21 IDEAL BOILER FOR AUTOMATIC COAL

A de luxe boiler for any standard stoker, front or side. Removable panels make installing easy.

ARCO HUMIDIFIER MODELS 5000 & 5040 Inexpensive. Supplies correct moisture to air in house. Model 5000 for external connection to any boiler. Model 5040 built-in type with Taco Heater for No. 11 Ideal Boiler.

3 MORE NEW PRODUCTS

JUST ANNOUNCED FOR YOUR PARADE OF PROFITS

Now your line is complete — with equipment for every comfort need . . . every type of home . . . every pocketbook. Plan the kind of installations you want to sell — people want to buy — with complete assurance of quality and satisfaction.

ARCO AIR CONDITIONER 301-B

...new, larger Conditioning Unit . . . provides heat as well as fresh, filtered, humidified air in conjunction with steam or hot water boiler. Floor type model needs no registers or pipe stand. Attractive green jacket.

ARCO COOLING UNIT

Used with the Arco Air Conditioner, it brings summer cooling in reach of the average home. This model operates on cold water and is recommended where summer water temperature does not exceed 50° F.

ARCO AIR CONDITIONER 1101-B

THREE IN ONE – Contains No. 11 Oil Burning Boiler, Arco Air Conditioner, and Taco Heater for year-'round hot water supply . . . in one attractive jacket.

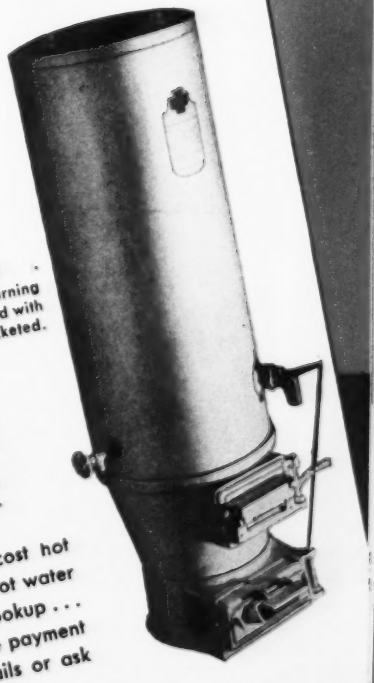
...AID RADIATOR—Small, trim and efficient—only 7¼" deep! Completes the line of small tube, non-ferrous Arco Radiators. You get 32 sq. ft. of ...ation from an Arco Six Tube Radiator 25" high ...long!

...ERMOSTRUSH RADIANT HEAT CONTROL—Insures constant ...ANT HEAT, most accurate temperature control. ...in Arco circulating hot water systems. *Equa-*... operates on steam systems.

MAKE QUICK SALES } NOW!
LAND SUMMER JOBS }

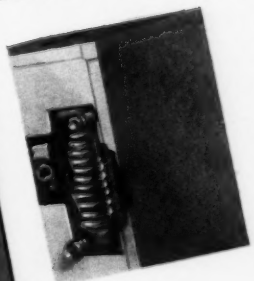
by selling

NEW SUMMER HOT WATER PRODUCTS



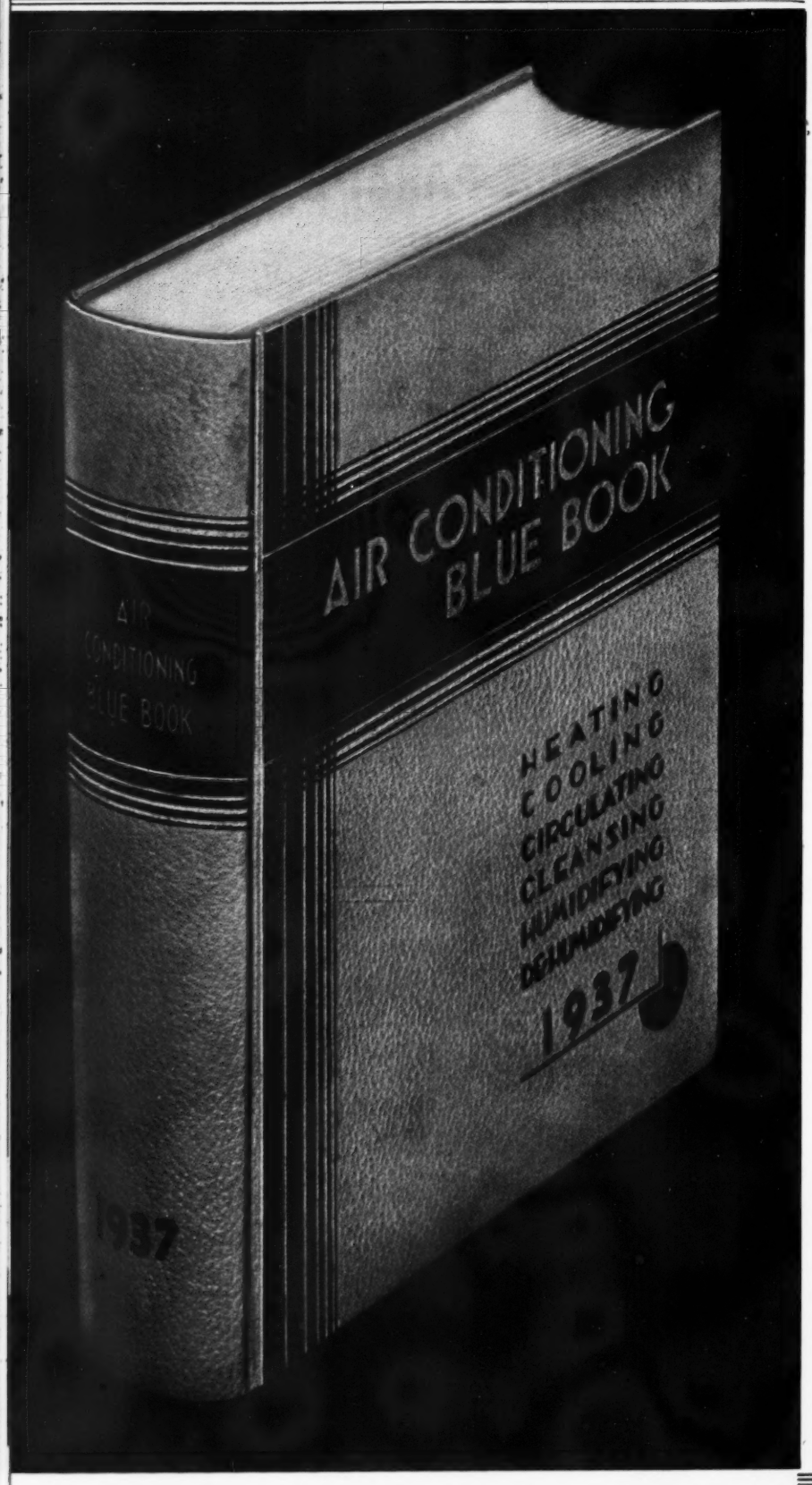
NEW KOLFLASH HEATER

A new, self-contained coal-burning storage water heater. Jacketed with automatic regulator, or unjacketed.



Indirect Summer-Winter Hot Water is featured in the new American Radiator Conditioning Systems by the patented Taco-Abbott System. A big seller for automatic heating.

Right now your customers are interested in low cost hot water. American Radiator gives you every kind of hot water system . . . every kind of hand fired or automatic hookup . . . including every product that you need and a time payment plan that makes selling easy. Write for the details or ask your jobber.



You'll Need The
BLUE BOOK
Every Day!

If you design, specify, install or service air conditioning or heating equipment, you'll have need for the AIR CONDITIONING BLUE BOOK *every day*. In this one volume you'll find all the technical and product reference data so essential to the successful air conditioning or heating installation . . . data which you may rely upon for accuracy . . . data which you'll want to keep handy and ready for instant consultation.

Over 150 pages of its more than 600 pages will be devoted to vital technical reference material which you'll find of inestimable value to you in figuring air conditioning and heating requirements. Many tables, rules and charts will simplify the use of this material.

In its complete classified directory the names of more than 3500 manufacturers of products used in air conditioning and heating will be listed under the headings of all items they make. Where you may be familiar only with the trade name of a product you may quickly establish the name of the manufacturer in the trade name section of the BLUE BOOK.

In another section the names and complete addresses of all known manufacturers of items used in this field will be listed. In a matter of seconds you are thus enabled to locate information so vital to your daily buying and specifying activities.

In the manufacturers' catalog section the products of the leading makers of air conditioning and heating equipment will be displayed. Descriptions, sizes, capacities and various other specifications of these products will be incorporated.

AIR CONDITIONING BLUE BOOK
1900 PRAIRIE AVE., CHICAGO, ILL.

In the AIR CONDITIONING BLUE BOOK you'll find more than 150 pages of technical reference data essential in figuring air conditioning requirements — a classified directory of every product entering into air conditioning—a trade name section showing every trade name by which products in the field are known—the names and addresses of more than 3500 manufacturers—catalogs of leading manufacturers of air conditioning and heating equipment, together with descriptions, sizes, capacities and various other specifications of their products.

Here is vital information you'll need for daily reference. You'll find it indispensable. Copies of the 1937 edition will soon be ready for distribution. So as to insure receiving your copy, we suggest you place your order *now*. The price, postpaid, is $3.00 per copy.

AIR CONDITIONING BLUE BOOK

ment, Shell Union Oil Corp., was the first speaker and read a paper on, "Fuel Oil—A Major Petroleum Product." The paper presented the effect of balanced utilization of petroleum products on the future supply of domestic and industrial fuel oils.

Air Conditioning

Introducing the subject of air conditioning were three addresses broadcast during the evening from the Commercial Museum. Elliot Harrington, engineer in the air conditioning department of General Electric Co., presented a paper showing that air conditioning meets the practical conditions of life and furnishes a greater degree of comfort and air purification. J. K. Knighton, manager of the air conditioning department of Nash-Kelvinator Corp., was the second speaker and the third was J. R. Hertzler, manager of the air conditoning division of York Ice Machinery Corp.

Technical Aspects

Willis H. Carrier, chairman, Carrier Corp., addressed members of the Oil Burner Institute on the subject of "Technical Aspects of Air Conditioning." Mr. Carrier stressed the need for uniform temperature control in any air conditioning system and then went on to say: "Uniform external temperature over the body is perhaps the greatest essential in the prevention of colds. One reason why we benefit by going to bed when we have a cold is uniform temperature and warmth. The reason why we avoid drafts—lack of uniform temperature. The reason why we can stay outdors in the coldest weather without catching colds—uniform temperature."

Dr. C. A. Mills, professor of experimental medicine, University of Cincinnati, spoke on "The Health Angles of Air Conditioning." In this paper, Dr. Mills outlined the studies he has conducted on the effect of climatic conditions upon human beings and the relationship between air conditioning and health.

The business side of producing and distributing oil burners formed the subject matter of the third day's program. The program was led off with a financial and accounting session conducted by Frank H. Dewey, general manager of Gar Wood Industries. Following a talk on the necessary elements in cost of manufacture, distribution and installation by Raymond T. Moore, the meeting was turned over to general discussion.

Marketing

A marketing session was sponsored by the market research committee and conducted by L. L. Jacobs, vice president, Electrol, Inc. The first paper presented at this session was a study of the effects of taxation and legislation upon marketing and was presented by Baird H. Markham, director of the American Petroleum Industries Committee. A second paper based on practical experience in the sale of oil burning equipment was read by Henry Brodie, general manager of Buckley and Scott Utilities, Inc.

The fourth day of the exposition was set aside as dealers' day with sessions sponsored by the oil burner division of the Electric Assn. of Philadelphia. Chairman of this division was F. C. Habb, general manager, Petroleum Heat and Power Co. Vice chairman was P. T. Hampton, Wright & Wright. These men along with A. S. Purdy, Purdy Engineering Co.; C. W. Whitney, president, A.B.C. Oil Burner and Engineering Co.; and T. Rowland, Elliot-Lewis Co. formed the executive committee.

Control

Mr. Whitney read a paper on the subject, "Service and Installation Cost Control." The other speaker at the dealer session was Herbert W. Hess, professor of marketing, Wharton School of Finance and Commerce, University of Pennsylvania, who discussed "Modern Merchandising."

"Merchandising in its more elemental form at one time was thought of as a technique by which the retailer impressed the merits of his goods upon the consumer," said Professor Hess. "In a general way, window and counter displays and stock arrangements to attract the attention of the consumer came under this classification. This was before mass production methods began to encompass national markets.

1. Harry Hexamer, sales manager, F. T. Paff, New York, both of Excelso Products Corp., Buffalo, N. Y. 2. E. Lyell Gunts, director of sales promotion, Frank Drake, sales training director, May Oil Burner Corp., Baltimore, Md. 3. J. A. Lattner, secretary and treasurer, M. D. McWilliams, vice president and sales manager, both of Century Engineering Corp., Cedar Rapids, Ia. 4. L. H. Dietz, sales manager, J. S. Blackmore, Philadelphia manager, both of H. A. Thrush & Co., Peru, Ind. 5. Allan Reif, president, W. A. Ensign, Frontier Fuel Co., Buffalo, and C. A. Reif, vice president and treasurer, all of Reif-Rexoil Co., Buffalo, N. Y. 6. R. L. Campbell, Detroit, G. E. Gage, New York, Al G. Hann, Detroit, all of Detroit Lubricator Co. 7. R. H. Boyer, manager, Philadelphia office, Ed. Pace, Jr., Paul R. Young, E. C. Clifford, assistant sales manager, all of the Kent Co., Inc., Rome, N. Y. 8. D. F. Roloff, sales engineer, Ft. Wayne, Ind., J. W. Sholder, publicity, Philadelphia, H. J. Miller, fractional h. p. motor sales, Philadelphia, R. L. Gibson, advertising manager, Schenectady, W. J. Farnsworth, industrial sales manager, all of General Electric Co. 9. George von Seebeck of New York, E. S. Lea, chief engineer, C. Sawade, sales manager, Utica Radiator Co., Utica, N. Y. 10. Harry F. Tapp, manager, oil burner and air conditioning division, E. J. Enoch, Jr., advertising and sales promotional manager, C. B. Cooley, assistant sales manager, all of Gilbert & Barker Mfg. Co., Springfield, Mass. 11. Ralph Henderson, sales manager, Elwood White, president, J. F. McIntire, vice president, all of United States Radiator Corp., Detroit. 12. C. S. Dieter, sales manager, H. G. Whitson, Westchester, Pa. dealer, F. H. Tomlinson, all of Bethlehem Foundry & Machine Co., Bethlehem, Pa. 13. E. Berghoff, chief engineer, A. C. Benningson, eastern sales manager, C. G. Cleaver, sales manager, all of Wayne Oil Burner Corp., Ft. Wayne, Ind.

1. Edward A. Teplow, treasurer, A. J. Gilbert, president, Syncro-Flame Burner Corp., Hartford, Conn. 2. George R. Hickman, Harrison, N. J., J. C. McDonald, New York, H. D. Stewart, Philadelphia, D. E. Welsh, manager, Philadelphia branch, all of United States Radiator Corp., Detroit, Mich. 3. Harold F. Marshall, advertising manager, Camden, N. J., William Jenkins, and Carl Rugart, Philadelphia manager, all of Warren Webster & Co., Boston. 4. John Jex, Jr., Philadelphia, L. J. Schanz, advertising manager, both of the Mercoid Corp., Chicago. 5. E. K. Lanning, sales manager, Warren Webster Co., Boston, Mass., George W. A. Kappel, Camden Heating Co., Camden, N. J. 6. E. J. Mummert, Philadelphia, George L. Harberger, assistant sales manager, B. W. Frederick, vice president, all of Eastern Foundry Co., Boyerstown, Pa.

"Now the gist of the matter is this—those of us in distribution today are under compulsion to formulate such policies of attack as will break down human resistance to the sale of our products. Instead of criticizing the formulation of plans as 'high pressure' we should accept them as indispensable and instrumental in increasing sales. When anyone criticizes these efforts as 'high pressure' he simply does not understand the underlying philosophy of selling. He immediately classifies himself as an agent, a representative or an order taking device. Selling in reality is working against the inertia and resistance of human nature to purchase and to get the use out of the goods we have to offer.

Enthusiasm

"If as dealers and salesmen, you are incapable of romance and enthusiasm for products. . . ., you will be a mere order taker. But, in a new industry, do not let mere price captivate your sales talk. Be powerful in your appeals as to the great contribution you make to an enriched home. Within these bounds you may work. With this psychology you are headed for success."

The annual dinner dance was the social highlight of the exposition. At this affair, Charles N. Lockwood, the new president, was informed of his election and delivered his speech of acknowledgment.

1. Paul K. Addams, executive vice president, Homer Addams, president, both of Fitzgibbons Boiler Co., Inc., New York. 2. R. H. Luscombe, manager, New York branch, Nelson B. Delavan, vice president and director of sales, Burton E. Shaw, research chief, all of Penn Electric Switch Co., Des Moines, Ia. 3. A. R. Herske, vice president, R. E. Daly, division of engineering, W. H. Emory, New York manager, all of American Radiator Co., New York. 4. W. A. Webster, district manager, J. O. Miller, district manager, P. H. Jacobson, sales manager, all of May Oil Burner Corp., Baltimore, Md. 5. Morgan J. Hammers, president and Charles F. Griffith, director, both of Electrol, Inc., Clifton, N. J. 6. C. E. Pullem, vice president, E. Moore, sales manager, both of Bell & Gossett Co., Chicago. 7. W. R. Beckett, research engineer, Fox Furnace Co., Elyria, O., C. W. Rouse, engineer, and W. J. Smith, vice president and general manager, both of Cleveland Steel Products Co., Cleveland, O. 8. A. J. Donohue, Philadelphia, A. P. Weiss, secretary, C. W. Lowrey, Philadelphia, Joseph Balter, sales promotion manager, S. Mayer, Baltimore, all of Burnham Boiler Corp., Irvington, N. Y. 9. Frank Dewey, general manager, Gar Wood Industries, Inc., Detroit, F. S. Dubin and Moe Dubin, Hartford, Conn. 10. P. T. Hampton, sales manager, Walter Wright, president, P. J. Dornisch, wholesale manager, P. W. Fritz, sales manager, D. S. Cain, all of Wright & Wright, Philadelphia. 11. John C. Dorsey, original equipment division, Philadelphia, Chris Jensen, original equipment division, New York, H. F. Dever, Philadelphia branch manager, all of Minneapolis-Honeywell Regulator Co. 12. Bruce Adams, assistant general manager, Chicago branch, and Merrill F. Blankin, Philadelphia, both of McDonnel & Miller

THE BEST SEAT IN THE HOUSE

(it's for our biggest customer!)

SURE he gets the best seat. Common courtesy and good taste
thought of hospitality holds at the
the theatre.

and lavishly entertained
ed memory that spoils
rwise fine office and

d toilet seat lin-
our of the show.

s not dulled
ings. Good
washrooms.
ANI-SEATS.

wash-
favored

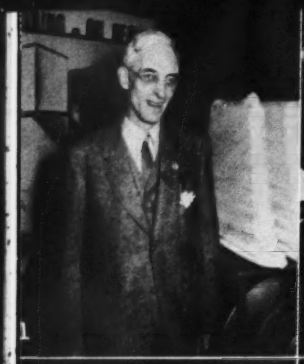
customer. With CHURCH Sani-Black SEATS, the first cost is the last. These fine seats, impervious to acids, time or abuse, can never be broken. Soap and water keep them always looking clean and sanitary.

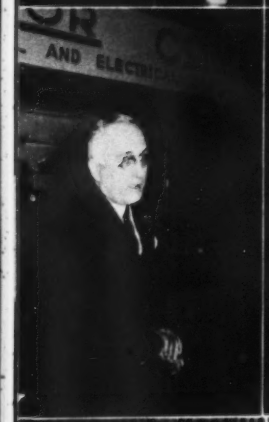
Clean toilet seats is the smallest courtesy you can show to any guest or to your own employees. Ask your office manager to write for a sample cross section and for the catalogue of CHURCH SANI-SEATS. See for yourself the improvement they make in the washrooms. Dept. F4, C. F. CHURCH MFG. CO., HOLYOKE, MASS., *Div. of American Radiator & Standard Sanitary Corp.*

UNBREAKABLE! . . . CHURCH Sani-Black SEATS *are molded of hard rubber over hardwood. Hinges, molded integrally, never loosen, never corrode.*

CHURCH *Sani* SEATS

THIS advertisement, appearing in the April issue of FORTUNE is creating so much talk, that we thought you'd like to see it. Mounted reprints are available . . . as well as counter cards featuring *The Best Seat in the House*. Write for them today. Dept. P4, C. F. CHURCH MFG. CO., HOLYOKE, MASS., *Div. of American Radiator & Standard Sanitary Corp.*





1. D. M. Kagay, manager, dealer sales, Gar Wood Industries, Inc., Detroit. 2. W. R. Rich, manager of oil burner division, American Radiator Co., New York. 3. F. M. Orsborn, sales engineer, General Electric Co., Ft. Wayne, Ind. 4. J. E. Axeman, sales manager, Spencer Heater Co., Williamsport, Pa. 5. Guy H. Brobst, secretary, Orr & Sembower, Inc., Reading, Pa. 6. J. W. Manny, manager, oil burner division, The Davies Supply Co., Chicago. 7. Phil Russell, manager, oil burner division, Detroit Lubricator Co., Detroit, Mich. 8. W. A. Matheson, manager, oil burner and air conditioning division, Delco-Frigidaire Corp., New York. 9. R. V. Wiley, sales manager, Hoosick Engineering Co., Inc., Hoosick Falls, Mass. 10. D. E. Johnson, engineer, S. T. Johnson Co., Oakland, Calif.

Sales Course

National Radiator Corp., Johnstown, Pa., recently conducted a series of sales training courses, which were attended by a total of 48 field representatives. The enrollment was divided into three classes; one class for men who have recently joined the company's sales force, and the other two classes were composed of salesmen who have been with the corporation for some time. The latter group included men who have been identified with the company's sales force as long as 30 years.

The training course was under the supervision of T. A. Novotney, manager of convector sales. The curriculum dealt chiefly with the study of the corporation's product, manufacturing methods and research activities. In order to better observe manufacturing methods and study product design, the classes were conducted on tours thru the corporation's plants at Johnstown, New Castle and Lebanon, Pa.

Supply Show

Approximately 500 were in attendance at the annual show staged by the Knapp Supply Co. of Muncie, Ind., which was held at the company's showroom March 10. Included in this group were master plumbers and representatives of manufacturers and wholesalers. Thirty-seven manufacturers had displays of their products at this show in addition to representatives of the company. As has been the custom in past years, a program of entertainment had been arranged for contractors, wives of contractors and architects, real estate men and building managers. The show was open until midnight and drew its attendance from a large territory around Muncie.

Galvanizers Group

The second meeting of the Galvanizers Committee sponsored by the American Zinc Institute, Inc., will be held in Saint Louis, Mo., April 26-28. On the morning of the first day, members of the committee will attend a session of the nineteenth annual meeting of the American Zinc Institute. In the afternoon they will attend a round table conference.

Kitchen Advertising

The International Nickel Co., Inc., New York City, has announced a wide-scale advertising campaign in behalf of kitchens. The campaign will continue throughout the year. A two-fold purpose features the campaign. The first is to publicize the kitchen planning service started by The Whitehead Metal Products Co., New York City, a subsidiary of the company. The second purpose is to attempt to increase the use of modern equipment in kitchens.

Package Honors

The Dole Valve Co., Chicago, has announced that in the 1936 All America Package Competition, the company was given the silver award in the folding carton group. The cartons were designed jointly by Harvey L. MacGowan and Stuart G. Phillips, advertising manager. The packages identify the entire line of merchandise and also indicate by numbers the different valves which are contained in each package.

Maine Salesmen

- *Thirtieth annual meeting of Plumbing, Steam and Metal Salesmen's Assn. of Maine*

Eight new members were voted in at the thirtieth annual convention of the Plumbing, Steam and Metal Salesmen's Assn. of Maine which was held at the Falmouth Hotel, Portland, Me., March 8. The new members elected were: Charles Gerstein, W. A. Eisenhauser, W. W. Bailey, G. I. Pippin, R. W. Crosby, Kenneth F. Bouqutt, John A. Inester and Stanley Anderson.

The officers that were elected at the meeting included: president, Randall K. Austin; first vice president, E. A. Mullins; second vice president, C. F. Harrington; third vice president, Harold Beard; financial secretary, Clayton H. Prouty; treasurer, Frank S. Billings; and recording secretary, Fred G. Hall.

A short business meeting was held during the afternoon and it was followed by a steak and lobster dinner during which a program of entertainment had been arranged.

Picture taken at three day conference of Spencer Heater Division, Lycoming Mfg. Co.

The annual sales convention of Fitzgibbons Boiler Co., Inc. was the scene for this picture. An account of this meeting was carried in last month's issue

Factory Meeting

All field men of Harvey-Whipple, Inc., Springfield, Mass., were called into the factory during the second week in March in order that they might get the advertising and selling plans for the year as well as view new additions to the company's products. Among the speakers at the meeting were: Walter O. Harvey, president; George Bork, vice president; Theodore A. Hodgdon, advertising manager; Ray G. Whipple, treasurer; and Willard G. Myers, New York advertising agent for the company.

Permanent Exhibit

Anthracite Industries, Inc., have announced the fact that they have a permanent exhibit at the Architects' Samples Corp., 101 Park Ave., New York City.

Heater Salesmen

Sales representatives from five eastern states of the Spencer Heater Division of the Lycoming Manufacturing Co., met in Williamsport, Pa., the latter part of February for a three day conference. Charles N. Tull, vice president of the company in charge of the Spencer Division, was the official host. W. S. Anderson, Jr., chief engineer, told the salesmen about the company's new products and discussed design and engineering. James E. Axeman, general sales manager, was in charge of arrangements for the program.

The representatives spent the three days inspecting the company's remodeled plant and laboratory, studying engineering features of its products, and discussing methods of expanding markets.

Consumer Campaign

Backing its introduction this year of twenty new products for air conditioning, American Radiator Co. has announced the opening of a nation-wide consumer advertising campaign, using both newspapers and magazines, to establish new principles for air conditioning obtainable through the use of radiator heating as installed by reputable contractor-dealers.

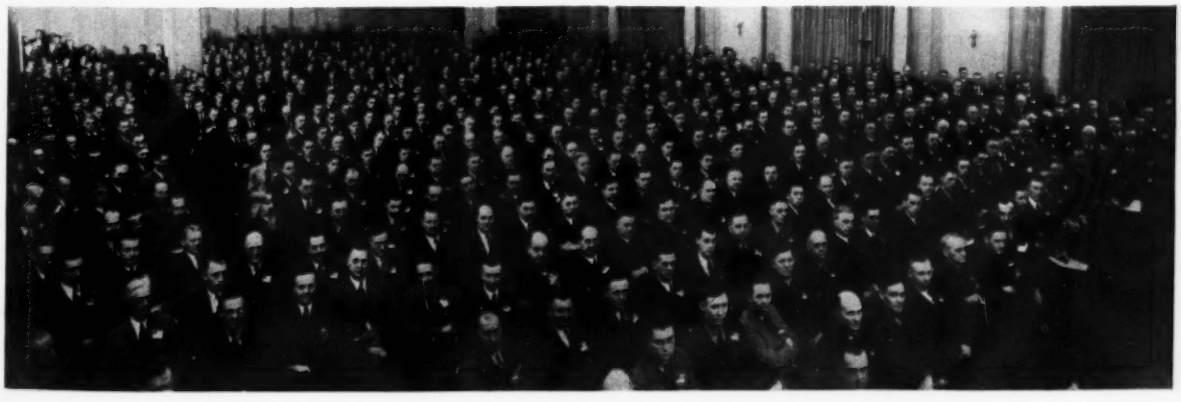
A two-page color advertisement on the "Parade of Products" appearing in the April 10 issue of The Saturday Evening Post, announced as the biggest and most important advertisement used by any manufacturer of air conditioning and heating products, will open the consumer campaign.

A list of about 600 newspapers with insertions of from 450 to 800 lines will be used for the spring drive, which will stress particularly new construction work. It will be followed in the fall by a newspaper campaign stressing air conditioning for modernization.

The entire consumer campaign will be an educational effort to establish the principles of air conditioning with radiant heat as installed by the radiator heating contractor for "personal comfort."

Anniversary Meeting

More than 1,000 dealers and salesmen attended the fourteenth anniversary sales convention of the Iron Fireman Manufacturing Co., which was held in Cleveland, Ohio, March 15 to 20. This was the largest number to attend such a meeting in the company's history. T. H. Banfield, president, announced that the company had registered a 41.9 per cent sales increase during last year and had based its 1937 operations on an estimated 50 per cent gain. C. T. Burg, general sales manager, spoke on the advertising plans for the coming year.



Taken at the fourteenth anniversary sales convention of Iron Fireman Mfg. Co.

Texas Wholesalers

• *Semi-annual meeting of Wholesale Distributors Assn. of Texas held in Waco, March 19 and 20.*

A feature of the semi-annual meeting of the Wholesale Distributors Assn. of Texas, which was held at the Roosevelt Hotel, Waco, Tex., March 19-20, was a presentation of the promotional plans of the Electric Water Systems Council. However, this was only a portion of a program which touched upon many phases of present day plumbing and heating activity and interest.

Herbert C. Angster, Secretary-Director of the Electric Water Systems Council, in speaking before the meeting brought greetings from manufacturers of domestic water systems. Mr. Angster contrasted business conditions in his field today with those which existed the last time he was present at a meeting of the Texas Wholesalers in September, 1935. 1936, he said, was the largest year the pump industry had experienced in the United States. Production had increased from a low of 48,000 units during the depression to a new high of 156,000 units in 1936. Indicative of the continued upward trend, the speaker pointed out that manufacturers of domestic water systems had appropriated $100,000 for the promotion of domestic water systems sales.

Water Systems

Later, before a meeting of water systems distributors, Mr. Angster made a report on what manufacturers are doing to educate dealers and wholesalers towards the increased sale of electric water systems Mr. Angster declared that research by utility companies had disclosed that where water was used in rural homes the average load on electric lines ran several times more than was the case where there was no running water. In other words, he stated, running water leads families to use more electric appliances. The speaker also mentioned the 32 page booklet which has been prepared by his association and which builds up the idea of encouraging contractor-dealers to appreciate that money is to be made in the sale of electric water systems. Mr. Angster also gave a brief resume of some of the other divisions in the Water Systems Manufacturers Assn., such as windmill, working barrels and cylinders and wood rod. He pointed out that a motion picture has been prepared to use in showing the proper installation of electric water systems.

Clayton Lee, director of the N.A.M.P., expressed the viewpoint of plumbing contractor-dealers. His talk stressed the need for a stronger cooperation between the different branches of the industry. In his talk Mr. Lee stated that many evils had been considered necessities during the depression and that all branches of the industry had done most anything in order to move merchandise, but now that business was back on its feet all three branches of the industry should conduct their respective businesses in the proper manner.

Robinson-Patman

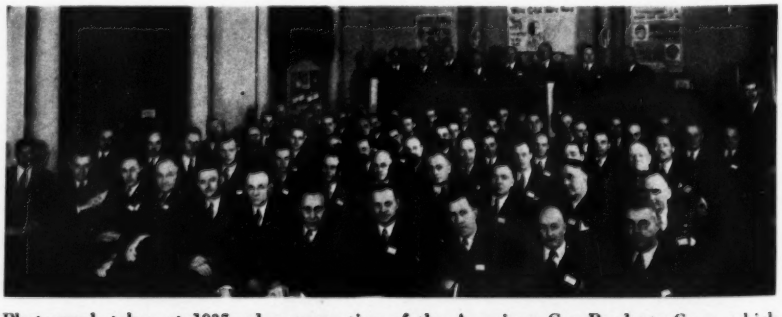
Some of the activities of the association were brought out at the meeting. It was stated that although the Robinson-Patman Act recently has been overshadowed in publicity by activity concerned with the Supreme Court, the Act is still on the books and should be complied with for safety. The report of the secretary in which the activity of the association is mentioned also declared that the compilation of a credit manager's manual had been started.

Several resolutions were passed at the meeting, one of which was addressed to manufacturers of heating specialties requesting them not to offer boiler and radiator manufacturers the same discount as given wholesalers when the heating specialties were not to be incorporated in the manufacturers' finished products. Still another resolution had to do with cash discounts. While not passed in the form of a resolution, it was the consensus of opinion that carload buying of merchandise in all fields was not in the best interests of the manufacturer-to-wholesaler-to-contractor line of distribution. The expression was made that such buying encourages overbuying on the part of contractors, with the result of credit losses, pool car buying and unusable stocks left on the hands of contractors.

William B. Neal of the Sommerville Iron Works gave a talk on the reasons why pig iron and coke are now hard to secure. He declared that all European and Asiatic countries are buying as much scrap iron as the United States can ship, as well as using all of their own raw materials. Therefore, it is necessary for the steel mills and foundries in the United States to use American raw iron ore. He went on to say that in addition to the increased American consumption there also is a marked increase in the tonnage of export raw material and finished products. Mr. Neal closed his talk with the warning that anyone now having merchandise on hand should not consider the cost of that particular merchandise, but rather what its replacement cost would be.

Valves and Fittings

Two speakers talked on the valve and fittings industry. Clyde Goza, Pittsburgh Valve and Fittings Co., was one and Mr. Klemann, Jenkins Bros., was the other. The latter pointed out that manufacturers are interested in teaching users of valves and fittings the proper care of such products and for this purpose his company has prepared a motion picture on the subject. Russell Bontecou, Bridgeport Brass Co., in a short talk stressed the need for stronger cooperation in all associations. C. M. Bodine, National Lead Co., spoke on the seal of approval which has been sponsored by the Lead Industries Assn. Mr. Bodine enumerated the requirements which lead pipe, traps and bends must meet to receive the seal of approval. W. S. Coleman, president, Anniston Soil Pipe Co., gave an interesting talk on the soil pipe situation. He declared that because of lack of raw material and the heavy demand for the finished product indications were towards a very steady, with perhaps climbing, market for soil pipe.



Photograph taken at 1937 sales convention of the American Gas Products Corp. which was held in New York City recently. The meeting, at which the 1937 sales program of the company was discussed, was described in last month's issue

R. E. Young, in charge of sales and development engineering, and B. J. Spitzka, educational director

Stoker Expansion

"The stoker industry is just beginning to grow into its real markets," said Gen. T. S. Hammond, president of the Whiting Corp., in announcing reorganization and expansion plans for the company's stoker division. Stevens H. Hammond, vice president, announced the following additions to the organization:

Dr. W. A. Pearl, formerly director of shops at Armour Institute, Chicago, has been placed in charge of production engineering. R. E. Young will have charge of sales and development engineering.

B. J. Spitzka has been appointed educational director. The newly organized service department will be headed by J. A. Depew, while S. M. Steinko has taken charge of advertising and sales promotion. Another step in the program has been the increase to six zones instead of four previously marking the country into sales areas. These new zones will be headed by J. W. Smith, Northwest; G. W. Warnacutt, Southwest; R. L. Sanford, Upper Central; C. A. Geupel, Lower Central; W. F. Tilley, Northeast; and H. S. Weeks, Southeast.

R. S. Hammond has been placed in charge of the stoker division's Chicago office with L. M. Bang as sales manager and W. F. Sanford, A. Porche, C. Gardner and L. W. Olson as representatives. Another step in the program has been to increase advertising plans for the coming season which are in the hands of The Buchen Co.

Some of the officers and department heads of Whiting Corp. Left to right, top row: Stevens H. Hammond, vice president, and Gen. T. S. Hammond, president. Bottom row: Dr. W. A. Pearl, head of production engineering; and S. M. Steinko, in charge of advertising and sales promotion

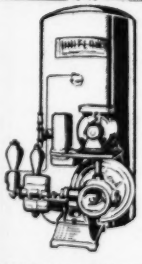
Personals

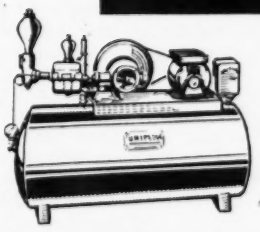
J. B. Trotman, who for many years was associated with Goulds Pumps, Inc., is now manager of the "T" pump division of Roots-Connersville Blower Corp., Connersville, Ind.

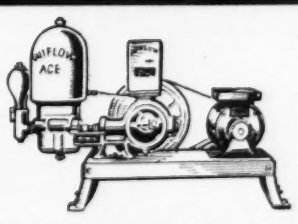
Theodore A. Hogdon, for the last two years associated with the Deerfield Glassine Co., has been appointed advertising manager of Harvey-Whipple, Inc., Springfield, Mass.

You're the Judge -- Look Over these Pioneering Features

1. Water Box (Pat. No. 1507441) Suction Valves below and discharge valves above cylinder increases suction lift and causes water to travel in one direction only through pumps hence named Uniflow responsible for 20 to 30% more efficiency in power and current consumption and exceptionally quiet operation.
2. Remove two large brass nuts only to get at and inspect entire suction or discharge valve mechanism.
3. The large Air Chamber on the tankless shallow well water system.
4. Centrifugally flooded oiling system for positive lubrication (Pat. No. 1609582).
5. Visible oil supply thru window in crank case.
6. Self Adjusting piston rod wiper (Pat. No. 1839 231) prevents water getting into oil. Extra deep and improved stuffing box.
7. Shallow well pump and including as large as 42 gallon tank shipped assembled in one crate ready to install.
8. No stick automatic swich (Pat. No. 1878456).
9. V belt drive for quiet operation and quiet Capacitor Motor.
10. One of the first electric shallow well pumps on the market.







Uniflow Domestic Shallow Well Systems are built in types and sizes to meet any application—any pocketbook. They start with a basically sound idea (one way water travel) and incorporate scores of construction features that contribute to stability, quietness, and exceptional economy of operation.

With enlarged facilities to meet the increasing demand for Uniflow Pumps, we are prepared to give you prompt deliveries. Write for information on the Uniflow Products that interest you.

Shallow Well Pumps - Deep Well Pumps - Cellar Drainers - Water Softeners - Klarifiers
Water Coolers - Milk Coolers - Septic Tanks - Beer Pumps
Domestic and Commercial Refrigeration
Draught Beer Cooling Systems

Sell a Lively Line UNIFLOW UNIFLOW MFG. COMPANY, Erie, Pa.

Allen J. Johnson, director of the Anthracite Industries Laboratory, has been appointed a member of the Committee on Correlation of Research of the Institute of Mining and Metallurgical Engineers.

G. W. Latham, formerly with Williams Oil-O-Matic Co. and the Delco Co. in the metropolitan New York district, has become district director of sales for the Auto Heat Corp., New York City, according to an announcement by Otto B. Moody, president.

Kirby M. Quinn, a manufacturers' agent in Chicago, has just accepted a position as the Chicago representative of the Scott Valve Co. His full time from now on will be devoted to this one line.

New Distributors

Sales Representatives, Appointments

Crane Co., Chicago, has appointed J. A. Dwyer, formerly manager of the Philadelphia branch, to the position of district manager in the Eastern territory. His headquarters will be in New York City. H. S. Officer, formerly manager of the Newark branch, succeeds Mr. Dwyer at Philadelphia, and

J. A. Dwyer and H. S. Officer

J. H. Geiss moves from Hempstead, L. I., to succeed Mr. Officer at Newark.

Jas. P. Marsh Corp., Chicago, has announced the appointment of Bymor Sales Corp., 322 New St., Philadelphia, Pa., as representative for the Philadelphia territory.

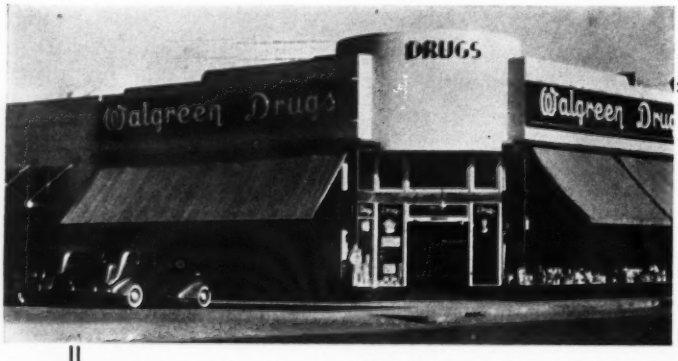
The Black & Decker Mfg. Co., Towson, Md., has announced the appointment of John M. Schreiner as manager of their Detroit branch succeeding the late George W. Stoiber. W. J. Fenwick, who for the past several years has been co-manager of the Cleveland territory, has been appointed manager. G H. Treslar has been appointed supervisor of the Detroit and Cleveland territories.

Davis & Warshow, Inc., New York City, has announced the appointment of William Klenert as their heating engineer. Mr. Klenert formerly was connected with the Freed Boiler Co.

Hajoca Corp., Philadelphia, Pa., has announced the following changes: W. H. McCormick, formerly manager of the Ninth St. branch in Philadelphia, has been appointed supervisor of the three Philadelphia branches; J. G. Rhoades, formerly manager of the Wilmington, Del., branch, has assumed the position vacated by Mr. McCormick; W. C. Hubbard, formerly assistant manager of the Wilmington branch, has been made manager; and J. Sherman Ryan, manager of the Wilkes-Barre, Pa., branch, has been appointed assistant auditor of operation.

The Billings & Spencer Co., Hartford, Conn., elected the following officers at an organization meeting held recently: W. A. Purtell, president; Frederick C. Billings, chairman of the board; W. Roy Moore, vice president and general manager; Howard E. Oberg, vice president; and M. Michman, secretary-treasurer.

The Oster Manufacturing Co., Cleveland, Ohio, elected the following officers at a meeting held March 5: R. B. Tewksbury, chairman of the board; Roger Tewksbury, president and treasurer; Arthur S. Gould, vice president; and Harry A. Maurer, secretary.



Minimax Building, Gray Ave. at Milam St., Houston, Texas. Architect: Joseph Finger. Plumbing Contractor: Barber Plumbing Co.

As time-tried and necessary as Duriron Acid-Proof Drain Pipe are such standard Duriron products as Duriron sinks, sink strainers, floor drains and ventilating fans. Bulletins giving full information sent freely upon request.

DURIRON
ACID PROOF
DRAIN PIPE

A NEW SOURCE of BUSINESS for YOU

Drug stores, confectioneries and other places with soda fountain and restaurant equipment need Duriron Acid-Proof Drain Pipe, BECAUSE: carbonated water is corrosive . . . fruit juices are corrosive . . . food acids are corrosive . . . the lactic acid in milk is corrosive.

These acids corrode the ordinary iron waste pipes. That's why Duriron Acid-Proof Drain Pipe is used in such places by conscientious architects. They use it to avoid trouble with the installation later, to save money, to guard against expensive replacements.

Wide-awake plumbers are going after similar jobs, replacing ordinary drain pipe with Duriron. And they not only make a profit, but also they are adding to their reputation for giving the customer the best job possible —one that will outlast the building.

The DURIRON COMPANY, Inc.

Specialists in the Manufacture of Acid-Resistant Equipment

409 N. FINDLAY ST. DAYTON, OHIO

The J. A. Zurn Manufacturing Co., Erie, Pa., has announced the appointment of C. H. Dinkelacker, 463 Hawthorne, Houston, Texas, as representative for Southern Texas, exclusive of El Paso.

Chase Brass and Copper Co., Waterbury, Conn., has announced several changes in personnel. L. S. Hanson, formerly manager of the sales promotion division, has been transferred and made manager of the New York and Newark districts. M. A. Joy, who Mr. Hanson succeeds, has been transferred to Cleveland, where he is in charge of all midwest branches, succeeding C. K. Lenz, who has become assistant to the vice president in charge of fabricating plants. A. F. Sheldon has been appointed manager of the sales promotion division. Formerly Mr. Sheldon was on the road doing special assignments for the company.

Leland Electric Co., Dayton, Ohio, has announced the appointment of W. B. Minch as factory manager. Mr. Minch was formerly with the Cleveland Welding Co.

N. E. Jennison

Penn Electric Switch Co., Des Moines, Iowa, has announced the appointment of N. E. Jennison as a senior engineer in the sales division. Mr. Jennison formerly was instructor on oil burner installation and service in the Essex County Vocational School, Newark, N. J. Nelson B. Delavan, vice president and director of sales, made the announcement.

Nash-Kelvinator Corp., Detroit, recently elected the following officers: C. W. Nash, chairman; G. W. Mason, president; H. G. Perkins, vice president; C. H. Bliss, vice president of sales, Nash Motor division; N. Erik Walberg, vice president of engineering, Nash Motor division; H. W. Burritt, vice president of sales, Kelvinator division; R. B. Elliott, vice president of production, Nash Motor division; H. E. Long, vice president of purchasing, Nash Motor division; H. A. Lewis, treasurer; H. J. Mellum, secretary; G. V. Egan, assistant secretary and assistant treasurer; G. H. Eddy, assistant treasurer; W. R. Crosett, comptroller; L. J. Holly, assistant comptroller, Nash Motor division; and J. J. Timpy, assistant comptroller, Kelvinator division.

C. H. Hall

Fairbanks, Morse & Co., Chicago, has announced the addition of Cortice H. Hall to the experimental and development staff of the stoker division. Mr. Hall formerly was connected with Electric Furnace-Man, Inc., New York.

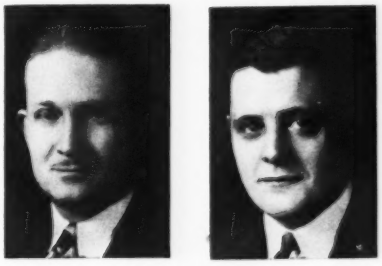
Business Changes and New Incorporations

Standard Sanitary Mfg. Co., has announced that the New York sales office and showroom has moved to new and larger quarters at 50 W. 40th St., New York City. A. M. Maddock, vice president of eastern sales, and Lee R. Kelly, New York sales manager, with their sales staffs will have offices in these new quarters.

Somerville Iron Works, Somerville, N. J., has announced that the metropolitan division of the company has moved into new and larger quarters at 236 E. 138th St., the Bronx. The metropolitan sales division is now located at the same address having moved from 155 E. 44th St., New York City.

C. I. T. Corp., New York City, has announced that a branch office has been opened in Hartsville, S. C. The new office is located in the Bank of Hartsville Building and is in charge of R. D. Rountree. W. N. Gause will be associated with Mr. Rountree.

Penn Electric Switch Co., Des Moines, Iowa, has announced that the company has opened a new branch office at 333 Mutual Home Building, Dayton, Ohio. R. V. Clark, formerly manager of the New York office, has been placed in charge. R. H. Luscombe, formerly in charge of the company's gas control division, has been named to succeed Mr. Clark.



R. H. Luscombe and R. V. Clark

Fiat Metal Mfg. Co., Inc., Chicago has announced the opening of an eastern plant at 21-39: 21-45 Borden Ave., Long Island City, N. Y. Howard Nilson is general manager of this new plant. The new plant will serve the New England states, New York state as far west as Buffalo, Pennsylvania, except the territory west of Johnstown and the states of New Jersey, Delaware, Maryland, Virginia, North Carolina, Georgia and Florida.

Melchior, Armstrong, Dessau Co., New York City, has announced the opening of two new units, one in Washington, D. C., and the other in Hartford, Conn.

Hajoca Corp., Philadelphia, has announced that the Staunton, Va., branch of the company has moved into new and larger quarters at 107 S. New St. in that city. In addition to a large store, office and warehouse facilities, the new building has a large window display.

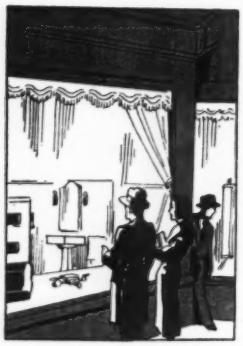
Kimberly Plumbing Supply Co., has been incorporated in New Haven, Conn., and is headed by Louis Merberg and Barnett Gubersky.

F. C. Russell Insulation Co., Baltimore, Md., has been formed by F. C. Russell. Headquarters of the company are at 3925 S. Hanover St. Associated with Mr. Russell in the management of the company are J. B. Russell and J. R. Harrason.

Mayflower-Lewis Corp., St. Paul, Minn., has been formed by the merger of Mayflower, Inc., formerly located at Lima, Ohio, and Lewis Air Conditioning Co., St. Paul, Minn.

Peninsular Supply Co. has been formed at 1333 North East Bayshore Place, Miami, Fla. E. E. McFarland is manager.

General Heat & Appliance Co., Boston, Mass., has announced that the company will move to new and larger quarters at 594 Commonwealth Ave. in that city about May 15. The building into which the company will move is being renovated and modernized.



Trade

News of . . . Men . . . Associations . . . Events . . .

National Convention Plans

- *Patman to address 55th annual convention in Atlantic City—Tentative program arranged—Letter from President Werner urges attendance*

Plans for the fifty-fifth annual convention of the National Assn. of Master Plumbers have begun to take shape. Recent releases from the N.A.M.P. have indicated the present status of the exposition as well as the tentative program which has been arranged for the convention. The N. A. M. P. statement follows:

The national association is fortunate in having secured such an outstanding speaker as Congressman Wright Patman to address the fifty-fifth annual convention. With the constant clamor from the membership to do something about chaotic distribution conditions, we could have no more competent man to guide us in remedial action than the co-author of the Robinson-Patman Act.

The Congressman won't pull any punches in dealing with the menace of the mail order houses, direct-to-yous, and direct selling wholesalers. We can depend on that, because Wright Patman has been a fighter since he first cleaned up the City of Texarkana, Texas, as a budding district attorney.

Coming from a long line of retail merchants—the first Patman was in business in Virginia in 1640—the Congressman has been a true friend of the retailer. He knows the retailers' problems and his previous speeches in the plumbing industry have indicated that he knows what is going on.

Congressman Wright Patman who is scheduled to speak at the national convention

Chain Stores

As a Congressman, and a new-comer at that, Congresman Patman distinguished himself early by completing an investigation of chain store and other large scale buyers and sellers, introducing remedial legislation and seeing it placed on the statute books in less than a year. And as a further commentary of his ability we might mention that the extensive exploration of the devious channels of chain purchasing and selling, cost the people of this country less than $10,000.

The Congressman has addressed over 50 organizations of retailers, wholesalers and manufacturers on the subject of the retail merchant and the necesity of keeping him in business as the backbone of the economic structure of our country. Congressman Patman is preparing a speech which will concern itself purely with plumbing and heating products and their method of distribution in the plumbing and heating industries. Such parallels as he may draw from other industries will only be illustrations of corrective measures which the master plumber can and should take under the Robinson-Patman Act and other laws, to assure himself of a fair chance for the consumer's dollar.

As a special concession to our membership, Congresman Patman has agreed to answer ten questions from the platform, provided they are written questions and are sent to the N.A.M.P. in Washington before May 5. May we ask that these written questions be strictly confined to plumbing and heating, and that they be carefully prepared so as to permit a definite and positive answer by this great authority on distribution. Preference will be given to questions coming from state or local associations; next consideration will be given to questions propounded by members. No attention will be paid to questions from nonmembers or from the other branches of the industry.

The N.A.M.P. also has released the tentative program planned for the convention.

Tentative Program

Saturday, May 22

1:00 P. M.

Meeting of Board of Directors..... ..... Ambassador Hotel

Sunday, May 23

10:00 A. M.

Meeting of Board of Directors..... ..... Ambassador Hotel

Monday, May 24

10:00 A. M.

Opening of 1937 Home Comfort Exposition....Atlantic City Auditorium

1:00 P. M.

Organ Recital—

Opening of 55th Annual Convention. .....Atlantic City Auditorium

Opening Ceremonies. President, N. J. State Association of Master Plumbers

Song: "The Star-Spangled Banner"

Invocation ..... Rt. Rev. Monsignor Maurice R. Spillane

Introduction of His Excellency, the Governor of New Jersey

Welcome to New Jersey..... .....Hon. Harold G. Hoffman

Response to Welcome..... .....Vice-President L. J. Kruse

Introduction of His Honor, the Mayor of Atlantic City
Welcome to Atlantic City.....
.....Hon. Chas. D. White
Response to Welcome.....
.....Ronald A. Needham
Introduction of Mrs. F. C. Kuetemeyer....President Geo. H. Werner
Introduction of Past Presidents, Charter and Honorary Members..
.....Frank B. Lasette
Introduction of Exhibitors and Guests
Memorial Services .....
.....Rev. H. E. A. Durell (Walter E. Eynon, Chairman)
Announcements

Tuesday, May 25
9:00 A. M.

1937 Home Comfort Exposition.....
.....Atlantic City Auditorium
Organ Recital
10:00 A. M.
Second Session of the 55th Annual Convention.Atlantic City Auditorium
Appointment of Committees
Preliminary Report of Credentials Committee
Reading of Communications and Resolutions
Report of the President.....
.....President George H. Werner
Report of the Scholarship Committee
.....Richard J. Welch
Conferring of Scholarships for 1937-1938.....Richard J. Welch
Address .....John Coefield, Pres., U. A. of Journeymen Plbrs. & Steamfitters of the U. S. & Canada
Report of the Secretary.....
.....Secretary George L. Bird
Report of the Treasurer.....
.....Treasurer H. O. Green
Report of the Auditing Committee
Address.....Dr. Clifford E. Waller, Asst. Surgeon-General of the U. S. Public Health Service
3:00 P. M.
Group Meeting on Research.....
.....Atlantic City Auditorium (Jere L. Murphy and A. R. McGonegal, Presiding)
Address and Discussion, led by Prof. F. M. Dawson, University of Iowa.

Wednesday, May 26
9:00 A. M.

1937 Home Comfort Exposition.....
.....Atlantic City Auditorium
Organ Recital
Third Session of the 55th Annual Convention.Atlantic City Auditorium
Report of Apprenticeship Committee.
.....E. P. Ingram
Address on Apprenticeship.....
.....Wm. F. Patterson
Report of Standardization Committee.....Jere L. Murphy
Report on Research.....
.....Prof. F. M. Dawson
Report of Conference Committee...
.....P. W. Donoghue
Address..Congressman Wright Patman
3:00 P. M.
Group Meeting on Distribution.....
.....Atlantic City Auditorium (P. W. Donoghue and Walter Klie, Presiding)

Thursday, May 27
9:00 A. M.

1937 Home Comfort Exposition.....
.....Atlantic City Auditorium
Organ Recital
10:00 A. M.
Fourth Session of the 55th Annual Convention.Atlantic City Auditorium
Report of Plumbing & Heating Industries Bureau Committee.....
.....John J. Calnan
Address.....Norman J. Radder
Report of Sanitary Committee.....
.....A. R. McGonegal
Report of Board of Directors.....
.....Vice-President L. J. Kruse
Address .....Dale Carnegie, Author of the book "How to Win Friends and Influence People," and noted speaker on salesmanship
Final Report of Credentials Committee
Report of Resolutions Committee
Report of Executive Secretary.....
.....Ernst L. Flentje
Unfinished Business
New Business
Nomination of Officers
Balloting for Officers
Adjournment.

Werner's Letter

George H. Werner, national association president, has released the following letter on the coming convention. In it he mentions the plans, purposes and ideals which have regulated the convention arrangements.

"Year after year, thousands of master plumbers from all over the country go to the annual convention of the National Assn. of Master Plumbers. Some may go to the convention just for a good time. More, we are sure, go to the convention because they get personal benefit. While the pleasure motive is present, probably, in everyone most of us are practical enough to want to get our money's worth for every cent we spend. I believe that it can be demonstrated that the moderate expense entailed by a trip to a national convention brings tangible return.

"It isn't every day that one has the opportunity to hear the type of speakers secured by the N.A.M.P. This year Congressman Wright Patman will discuss the distribution evils in the plumbing and heating industry, and will point out ways and means to correct these evils by taking advantage of existing Federal and state statutes.

"You will also have the opportunity to hear Dr. Clifford E. Waller, assistant surgeon general of the Bureau of the Public Health Service. Dr. Waller is a distinguished authority on domestic sanitation, and will speak on what the Bureau of Public Health is doing in the field of which plumbing is a part.

"The third speaker is both an orator of distinction and a successful author. Dale Carnegie has written a book, 'How to Win Friends and Influence People,' which has taken the country by storm. Thousands of now successful business men were once timid and quaking objects; but under the magic of Dale Carnegie's guidance they lost their fear, gained confidence and achieved the success which bears such eloquent testimony to his ability. Dale Carnegie will speak to the master plumbers at Atlantic City on their personal development, so that they can present their services and materials with personal confidence and with such conviction that the ultimate consumers just can't resist their persuasion.

Four Day Convention

"These three keynote speakers are but one feature of the convention. This year, instead of the usual three-day convention, we are having a four-day convention, starting on Monday, May 24 and carrying through until Thursday, May 27. This additional day will give greater opportunity than ever before for a detailed discussion of things of interest to master plumbers. The achievements of the present administration will be reflected in various reports. The discussions following these reports will be enlightening as a guide to individual and collective action.

"Two group meetings have been scheduled on the important subjects of distribution and research, and I believe it can be said that either of these meetings will alone repay any person attending. Prof. F. M. Dawson will report his year's work at the State University of Iowa on plumbing research. This cooperative venture is of absorbing interest to master plumbers, and may have far-reaching effects on installation practices.

Distribution

"We have prepared a surprise for the delegates in the distribution group meeting. Those who attended the group meeting in Buffalo on distribution will recall the valuable material there presented. While it might be premature at this time to disclose the nature of the material prepared for Atlantic City on distribution, suffice it to say that nothing as extensive, as important, or as stimulating to action has ever before been presented in the plumbing and heating industry. This material, plus the inspiration given by Wright Patman, it is confidently be-

lieved, will lead to a definite and co-ordinated showdown on this all-important subject of who shall sell plumbing materials installed by master plumbers.

Display of Material

"In the Exposition Hall, we have prepared a display of plumbing and heating materials larger in extent, we believe, and more tastefully arranged, than any previous exhibit of similar character. 17,800 sq. ft. of actual booth space will be occupied by manufacturers of plumbing and heating materials to display their latest goods and to explain them to the visiting master plumbers. Convenient rest spaces are provided, and it is believed through interest alone the delegates will want to spend a lot of time in the exhibit.

"To make their stay in the exhibit additionally attractive, the N.A.M.P. is offering a 1937 model automobile as an attendance prize, to be given to the fortunate member of the N.A.M.P. who is selected by lot from among those who have spent at least one hour a day for each of the days in the exhibit. Time clocks will be located at the entrances and at the exits so that a careful record can be maintained to see that participants in the attendance prize contest fully meet the attendance requirements.

"The entertainment features consist of two dances, and a Broadway vaudeville performance in the Atlantic City Auditorium. During lulls in the convention, and immediately preceding the sessions and at their close, a well-known organist will give recitals on the world's largest organ.

"But probably most important of all to the visiting master plumbers is the opportunity the convention affords for a mutual discussion of individual and industry problems among those in attendance. While it is true that the solution of most of our problems is a local concern, yet it is equally true that unless all master plumbers, whether affiliated with us or not, operate on a unified, co-ordinated plan, national in scope and nationally guided, such individual corrective measures as may be applied will not be entirely successful. It is only when we can sit down to work out practical solutions, and then go back to our homes and put those solutions into effect that we can make the plumbing and heating industry a better place in which to make a living.

Attendance Urged

"I am a master plumber myself. I have attended over twenty-eight national conventions, so I speak from a long experience. We have planned this fifty-fifth annual convention partially on that experience, and I hope that you will get the same benefit by attending the convention in Atlantic City as I have received from my attendance at conventions in the past. We have done everything we can to make the convention of value to you as a master plumber. The cost of attendance is small, and involves only your railroad fare, hotel and meals. There are no registration fees or other charges. I urge you to attend, and I will welcome you in Atlantic City most cordially."

Display Board

A display board illustrating the parts which go into the installation of a bathroom will be a feature of the convention. This large billboard will be placed so as to catch the attention of the consuming public and show the skill which is necessary for a satisfactory installation.

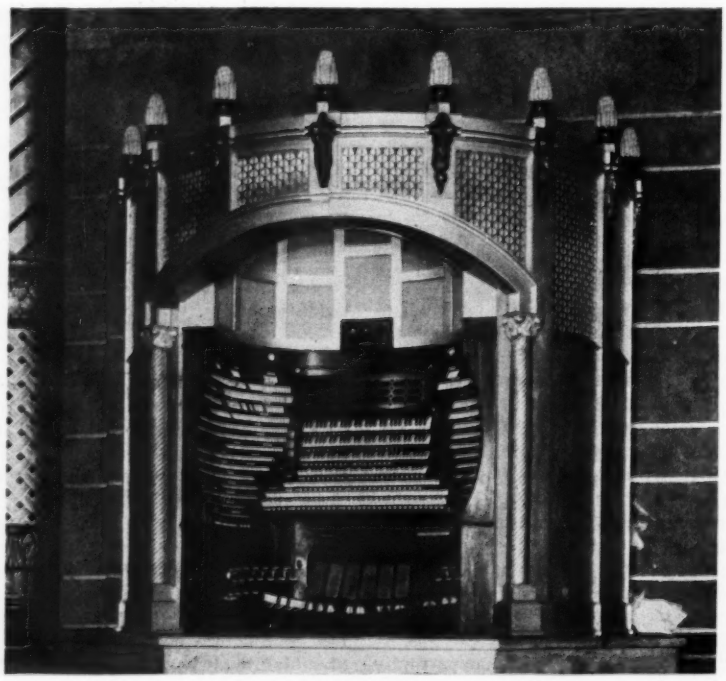
On an illuminated billboard, 120 feet long and 12 feet high, the N.A.M.P. will show the three hundred parts which go to make up a one-bathroom house installation.

To the left, on the billboard, a "cut-away" house will be shown, diagraming the installation. Following that will be the actual materials comprising the drainage and venting system in all its multiplicity of pipes, fittings and component parts. Then hot water systems will be shown, then the cold water system, then the gas system, and finally the basic plumbing fixtures in keeping with current public preference. Fifty thousand booklets will be distributed to consumers visiting the display.

Parts Used

Over all will be the dominating caption "What the Master Plumber Gives the Consumer for $650.00," and to the right of the billboard will be a tabulation showing the number of parts used, and the number of hours of employment furnished to employees of the manufacturers, wholesalers, and master plumbers when an ultimate consumer purchases a plumbing system.

This dramatic exhibit has been prepared by the N.A.M.P. to lend emphasis to the claims made by Master Plumbers that they perform a valuable service to the public that is not fully appreciated. Certainly, no consumer can look at this display without being impressed by the multiplicity of parts used and the skill and competence required to put them together to give satisfactory, ultimate use. We expect that many master plumbers who visit Atlantic City will want photographs of this board to put in their shops to show consumers what actually goes to make up a plumbing system. All the words that one might lavish on an explanation of a plumbing system will not be as convincing as the tangible impression that a consumer will get, either from seeing the billboard with the actual material displayed, or in looking at a reproduction of it in the master plumber's shop.



This pipe organ, known as the world's largest, is located in the Atlantic City Auditorium and will play during the N. A. M. P. convention

EASY TO SELL QUICK TO INSTALL

7 Vital Features

THE NEW Minneapolis-Honeywell Lo-Water Cut-Off has seven vital features – distinct advantages to you as well as your customers. They are easy to sell, quick to install and above all, are now available at New Low Prices.

1 · **QUICKLY INSTALLED** . . . Fits standard half inch gauge glass openings. Lower fitting may be readily removed if there is not enough room to swing entire assembly.

2 · **FLEXIBLE MOUNTING** . . . Copper tube between mountings can be cut to accomodate various center dimensions and easily shaped to allow for any slight misalignment.

3 · **ALARM OR SIGNAL CIRCUIT** . . . this feature is available, on special order, as is the reset mechanism which requires manual attention, after a shut-down, to restore burner operation.

4 · **DISMOUNTING UNNECESSARY** . . . Switching mechanism may be removed without dismounting instrument from boiler.

5 · **IMPROVED MERCURY SWITCH** . . . Control circuit is handled through an improved switch with a reputation for efficiency, quick action and rugged construction.

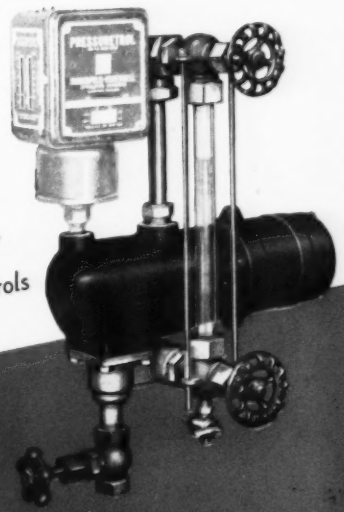
6 · **M-H QUALITY THROUGHOUT** . . . The reputation of Minneapolis-Honeywell behind this cutoff is your assurance and the assurance of your customer that this instrument will give long years of trouble-free protection.

7 · **NEW LOW PRICES** . . . Despite the distinct advantages of the Minneapolis-Honeywell Lo-Water Cut-Off, prices are far less than you would expect to pay for a quality instrument.

If you have not already seen the new M-H Lo-Water Cut-off, investigate at once. Your jobber or any Minneapolis-Honeywell branch or district office can give you full particulars. Minneapolis-Honeywell Regulator Co., 2801 4th Ave. So., Minneapolis.

■

When the M-H Pressuretrol, as illustrated in phantom, is added to the Lo-Water Cutoff, the assembled instrument is known as a Duplex Switch.



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AUTOMATIC CONTROLS MH

LO-WATER CUT OFF

DEPENDABLE CONTROLS COST LESS THAN SERVICE

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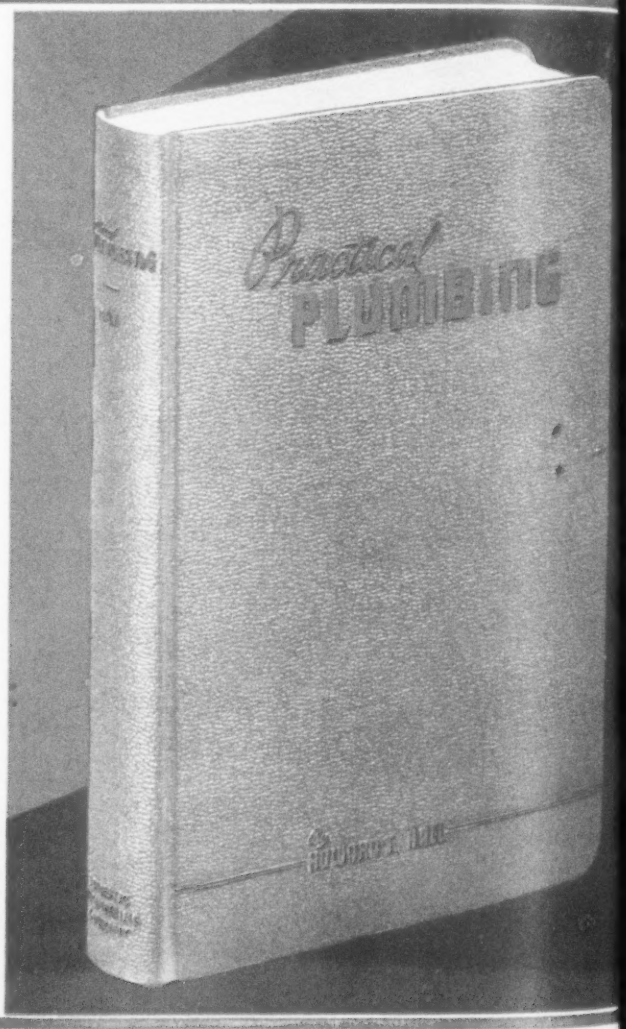
GUESSWORK has no place in modern plumbing. Guesswork, at best, can be extremely hazardous to the lives and to the health of your customers and also to your own reputation. These people look to you for PROTECTION against just such hazards. They put their TRUST in you. Don't let them down. Don't betray their confidence. Be sure your plumbing installations are RIGHT from start to finish. How can you be sure? You'll find your answer in this remarkable new book . . . PRACTICAL PLUMBING.

PRACTICAL PLUMBING covers its subject so thoroughly, so practically, that there is no phase of plumbing which has been overlooked or slighted. It's a book which will entirely eliminate guesswork from your plumbing installations. It's a book which will enable you to KNOW THE FACTS before you tackle ANY plumbing job. It's a book which will help you avoid costly, dangerous mistakes. With the aid of PRACTICAL PLUMBING you'll lick your most complicated plumbing problems with comparative ease.

PRACTICAL PLUMBING is just what its title denotes. It covers plumbing purely from a practical standpoint and resorts to theory only when necessary to demonstrate the origin of a common practice. Its 365 pages of meaty, informative and reliable material are profusely and clearly illustrated with diagrams, charts and tables. These, together with an alphabetical ready reference index, will greatly simplify your use of PRACTICAL PLUMBING.

You can't afford to be without PRACTICAL PLUMBING. You'll find it indispensable. You'll find it not only intensely practical but also a beautiful addition to your trade library. Place your order today. Use the coupon.



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Part II.—HOT AND COLD WATER SUPPLY. Chapter IV.—Cold Water Supply. Chapter V.—Cold Water Pipe Sizing. Chapter VI.—Pneumatic Water Systems and Cylindrical Tanks. Chapter VII.—Domestic Hot Water Supply Systems. Chapter VIII.—Range Boiler Connections. Chapter IX.—Solar Water Heaters.

Part III.—MISCELLANEOUS SERVICES. Chapter X.—Fire Protection and Automatic Sprinklers. Chapter XI—Lawn Sprinkling Systems. Chapter XII.—Shower Baths, Swimming Pools and High Buildings. Chapter XIII.—Drinking Water Systems. Chapter XIV.—Gas Piping and Gas Consumption. Chapter XV.—Vacuum Cleaning and Compressed Air. Chapter XVI.—Water Turbines.

Part IV.—PLUMBING FIXTURES AND MATERIALS. Chapter XVII.—Water Closets and Urinals. Chapter XVIII.—Other Types of Plumbing Fixtures. Chapter XIX.—Insulation. Chapter XX.—Pipe, Fittings and Materials. Chapter XXI.—Mathematics and Mathematical Tables.

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New Hampshire Annual

• *J. L. Greenwood elected president at annual convention of New Hampshire State Master Plumbers' Assn. convention, held at Manchester, N. H., March 10—National activity is discussed*

The annual one day convention of the New Hampshire State Master Plumbers' Assn. was held at the Hotel Carpenter, Manchester, N. H., March 10. Officers who were elected at this meeting were as follows: Joseph L. Greenwood, Bristol, president; Orvel B. Peirce, Peterborough, vice president; and M. W. Morgan, Concord, secretary-treasurer.

George H. Rolfe, past president of the association, acted as toastmaster during the dinner and later turned the session back to M. W. Morgan, retiring president. Included in the guests present were: P. W. Donoghue, national director; C. B. Nash, vice president, Standard Sanitary Mfg. Co.; Dr. Bourroughs, New Hampshire State Board of Health; and Robert Dick, Lead Industries Assn. Also included in the attendance were a number of representatives of both wholesalers and manufacturers.

N. A. M. P. Activities

Mr. Donoghue outlined the activities of the N.A.M.P. and stressed the importance of cooperation in state legislative efforts. One of the points made by Mr. Donoghue was that increased efforts should be made to secure a larger membership. Another point presented by the speaker was concerned with the distribution of plumbing materials through proper channels. Developing this thought further, he declared that these proper channels undoubtedly would be strengthened as a result of the tagging of all plumbing fixtures. According to the speaker, some of the results of such action would be that the proper type of fixture only would be installed, which automatically would be a protection for public health both in the installation of proper fixtures and the impossibility of work being done by incompetent handymen.

Mr. Donoghue briefly outlined the progress made by the legislative committee of the Massachusetts state association through the combined cooperation of the association and the state board of health. He mentioned the state law in force in Massachusetts which requires all plumbing installations made in communities of 5,000 or more population to receive the approval of local plumbing inspectors.

C. B. Nash in his talk declared that clean water is the nation's problem. He went on to state that recent floods as well as last year's drought have brought this fact very forcibly to the attention of everyone in the nation. The protection of this water is a problem, he went on to say, which must be laid squarely and surely upon the doorstep of master plumbers and local and state boards of health. His concluding thought was that anything so closely connected to public health as is plumbing must be taken out of the hands of politics and placed under the guidance of local and state boards of health.

Lead

Robert Dick, Lead Industries Assn., spoke on lead and its uses in plumbing. In his talk he mentioned the seal of approval, which his association has recently adopted. Various plumbing installations were illustrated by Mr. Dick by means of slides.

In his speech of acceptance following his election, President Greenwood stated that his first move would be to appoint a special committee to make a study of plumbing throughout the state, report any plumbing job that was improperly installed and consequently a potential source of danger to the health of the community and report all such cases to Dr. Bourroughs of the State Board of Health.

Philadelphia Meeting

The regular meeting of the Philadelphia association held March 4 was featured by a report on the all industry meeting held in Philadelphia the previous month. One of the actions taken by the association was to have the secretary write to the President urging the continuation of Title I of FHA beyond its present expiration date. President Lamond reported to the meeting on the all industry meeting and the code of ethics which was presented at that time. In so doing he mentioned the separate provisions which made up the code of ethics and commented on each.

Philip Hering, Jr., who is a member of the plumbing board, urged all members to be sure to file plans and secure permits on all jobs since there were heavy penalties for violations. Mr. Hering who also is chairman of the legislative committee of the association stated that Bill 440, the proposed state plumbing code, was before the state senate and chances for its being passed were favorable.

At this meeting the association voted a reduction in initiation fees from $25.00 to $10.00.

Photographs taken at the New Hampshire convention. Those in the top row are, left to right: Joseph L. Greenwood, president, Bristol; Orvel B. Peirce, vice president, Peterborough; and M. W. Morgan, secretary-treasurer, Concord. Bottom row: B. H. Orr, Concord; P. W. Donoghue, national director; C. B. Nash, vice president, Standard Sanitary Mfg. Co.; and George H. Ralfe, past president, Concord

Georgia Licensing

On the last day of its session, the Georgia General Assembly passed House Bill No. 397, providing for the examination and licensing of master plumbers and steamfitters as well as journeyman plumbers and steamfitters.

The measure provides that an examination board be created, to consist of the county health officer, the county plumbing inspector, one master plumber, one master steamfitter, one journeyman plumber and one journeyman steamfitter, for each county having a population of 150,000 or over.

No person may assume the title of, or perform any of the work coming within the definition of the Act as a master or journeyman plumber or steamfitter until he shall have (a) passed the examination given by the board and (b) been licensed to practice his trade as master or journeyman plumber or steamfitter.

To defray the expense of carrying out the provisions of the Act, fees for application for a certificate have been set at $25.00 for a master plumber or steamfitter. Certificates may be renewed upon payment of a renewal fee of $10.00 per year for master plumbers and steamfitters and $3.00 for journeymen.

An amendment to the measure excepts plumbers and steamfitters employed by public utility companies.

New York Golf

Members of the Plumbing & Heating Golf Assn. of New York held their annual dinner-meeting on March 9 in New York City. This served as a wind-up to a successful 1936 season and the attendance promised that 1937 would be even better.

Reports were given by Eugene Duklauer, president; Glenn B. Van Buren, secretary and Karl S. Roberts, treasurer. The 1936 season took in six meetings including special matches with New Jersey and Connecticut golfers. President Duklauer presented a gift to Secretary Van Buren as a testimonial to his direction of the association's activities last year.

The trophy given by H. J. Carr presented to the member having the three lowest net scores for the meets held during the 1936 season, was won by Wm. L. Harmonay, plumbing and heating contractor of Yonkers, N. Y., with net scores of 71-71-73.

The association voted, on motion of Mortimer H. Smolka, to provide a special cup in honor of the late John F. Murphy who represented the Sloan Valve Co. in New York City for many years. A special committee, headed by Mr. Smolka and including Jerry A. Edwards of Sloan Valve Co. and Dudley Warth of the C. F. Church Mfg. Co., was named. The members voted unanimously to re-elect the same officers for 1937, including Eugene Duklauer, president; Lewellyn Power, vice-president; Ben Fassler, vice-president; Glenn B. Van Buren, secretary; Mortimer H. Smolka, assistant secretary; Karl S. Roberts, treasurer and Claude S. Coleman, assistant treasurer. The handicap committee was also re-elected, consisting of Henry Garrity, chairman, Jerry A. Edwards and Fred Brutschy.

February Permits

Building activity during February of this year was greater than during January, 1937, as well as during February of a year ago. The measurement used for this statement was the value of permits issued. Data on the subject were collected by the Bureau of Labor Statistics. The change during February and the same month of a year ago shows that new residential has increased in number 78.4 per cent and in estimated cost 94.4 per cent. New nonresidential has increased 71.1 per cent in number and 24.5 per cent in estimated cost.

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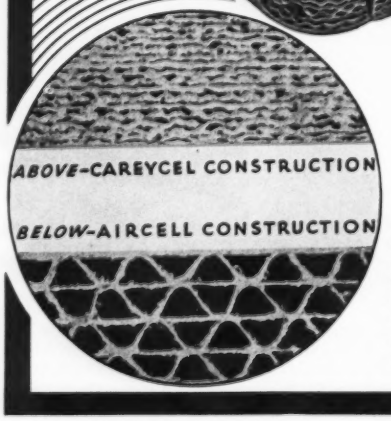

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Questionnaire on NRA

• *First summary on results of questionnaire sponsored by National Assn. of Master Plumbers—Indication of opinion on revival of NRA—151 answers summarized*

The National Assn. of Master Plumbers sent out a bulletin and questionnaire to get an opinion from the industry on the attitude towards a revival of NRA. The material contained in the following article is a result of answers received to that questionnaire. A letter from George H. Werner, president of the N. A. M. P. tells the aims and purposes of the questionnaire and it, like the results themselves, forms a recent release from the national association.

"On January 12, 1937, the N. A. M. P. sent out a bulletin and questionnaire on the subject of 'Government Control or Regulation of Industry.' This step was taken in view of the large amount of talk about a 'revival of the N. R. A.' emanating from many quarters.

Views of Members

"Such a movent is inaugurated, to present the views of its membership on this important question of Government control or regulation, and it was deemed desirable to not only ascertain the wishes of the membership on the basic question of whether such regulation or control was wanted, but also to get their views on certain details bearing on that basic question.

"We are attaching hereto a summary of the first 151 questionnaires. Many more questionnaires are on hand, and a follow-up to secure reports from those constituent associations who have not yet sent in questionnaires is now being mailed out. The 151 here summarized were selected because this was the number received by us as of February 15. It is intended that a final summary of the questionnaires received will be made on May 1, for consideration by the delegates at the 55th Annual Convention."

Summary

1. Are you favorably disposed towards governmental control, or regulation of industry?

Yes	108
No	40
Blank	3

2. By whom do you think control or regulation should be exercised?

By state governments	36
By Federal Government	85
Neither	7
Both	10
Blank	13

3. What things in industry should be regulated or controlled?

(a) Minimum wages	
Yes	133
No	3
Blank	10
(b) Maximum Hours	
Yes	123
No	7
Blank	16
(c) Child Labor	
Yes	135
No	1
Blank	10
(d) Prices of Goods and Services	
Yes	110
No	12
Blank	24
(e) Distribution of Goods	
Yes	123
No	10
Blank	13
(f) Unfair Trade Practices	
Yes	137
No	2
Blank	7
Did Not answer Any	5

4. If you are in favor of controlling minimum wages, how should such minima be determined and applied?

Nationally	22
Statewide	10
Regionally	42
Locally	48
Blank	15
Combination	*14

(Regionally and/or locally)

5. If you are in favor of controlling maximum hours, how should such maxima be determined and applied?

Nationally	39
Statewide	21
Regionally	27
Locally	33
Blank	19
Combination	*12

(Regionally and/or locally)

6. If you are in favor of controlling prices of goods and services, which of the following plans do you favor?

(a) Prohibition of selling below cast	22
(b) Application of minimum overhead	83
(c) Both	23
(d) Neither	3
e) Blank	20

7. If you are in favor of controlling the distribution of goods and services, which of the following plans do you favor?

(a) Classification of customers with fixed discounts	75
(b) Classification of customers with variable discounts based on volume of purchases	49
(c) Both	1
(d) Neither	3
(e) Blank	23

8. What current practices do you consider unfair?

(a) Manufacturers and wholesalers selling direct to the public, hardware stores, buying service houses, etc.	67
(b) Unlicensed plumbing and estimating	10
(c) Bid peddling	28
(d) Unwarranted extension of credit by wholesalers	10
(e) Selling below cost	26
(f) Unfair discrimination in prices, discounts and services by wholesalers	14
(g) Wholesalers selling to plumbers on owners guarantee	8
(h) Wholesalers controlling work through "stooge" plumbers	5
(i) Price cutting	7
(j) Mail order and d.t.u. competition	18
(k) Low wages and long hours	12
(l) Lack of fixed wage and hour scales .....)	2
(m) Public utilities selling at retail	5
(n) Publicising plumbers prices	1
(o) Lack of price preferential to plumbers with showrooms.....)	2
(p) Municipalities doing plumbing work	1
(q) Secret rebates	3
(r) Manufacturers selling to d.t.u.'s	3
(s) Wholesalers being in business at all .....)...	3
(t) Failure to live up to agreements	2
(u) No bid depositories available..	2
(v) Improper plumbing codes or none at all	2
(w) Federal and municipal governments buying from wholesalers	2
(x) Misleading advertising and deceptive statements	2

9. If a plan of industrial control or regulation is inaugurated, who do you think should prescribe the rules?

(a) Federal Government	45
(b) State governments	6
(c) Employers	17
(d) Employees	0
(e) Employers or employees	43
Combinations (a and e)	15
Combinations (b and c)	2
Combinations (a and c)	6
Combinations (a and b)	2
Combinations (b and e)	8
Other Combinations	2
Blank	5

10. Do you think that participation by business men in any regulation or control plan should be

Voluntary	27
Compulsory	112
Neither	1
Blank	11

11. Who do you think is the best and most practical "enforcement agency" for an industrial control plan?

(a) Federal Courts	38
(b) State courts	11
(c) Separate agency (like NRA)	42
(d) Industry itself	33
Combinations (a and b)	6
Combinations (a and d)	6
Other combinations	5
Blank	10

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Trade Graduates

John Lamond, president of the Philadelphia association, presented a gold watch to Robert Moore at the graduating exercises of the Philadelphia Evening Trades School. Mr. Moore's average of 99.2 made him the winner of the association prize. Second prize, a pen and pencil set, went to C. Seimer who had an average of 97.4. Ed. Rinear, chairman of the apprenticeship committee, spoke at the graduating exercises as did Robert Pflug-Felder, secretary of the association and director of the national association.

Heads Golfers

Edward Bauman of Werner Nygren, Inc., will head the golfers in the metropolitan New York area who are members of the Eastern Trade Golf Association. He succeeds John C. Kjerner of Petroleum Heat & Power Co. J. C. McDonald of U. S. Radiator Corp., was elected to the office of vice president at the same meeting.

The election of the new officers took place when many of the members attended the annual meeting in New York. Secretary treasurer R. G. Bookhout, who was re-elected, reported on the success of the 1936 season, indicated by the number attending the meetings as well as the present large membership.

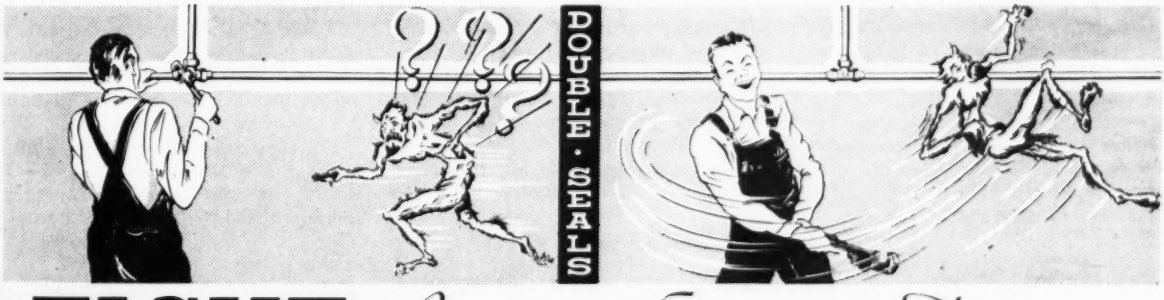
The board of governors during the next year will consist of C. G. Witherspoon, Baker, Smith & Co.; A. P. Keasbey, R. A. Keasbey Co.; Herman D. Jackes, Aerofin Corp.; Ernest H. Williams, Clyde R. Place; Al Engle, Jenkins Bros. The tournament committee will consist of T. W. Powers, Asco Supply Co., chairman; Wm. L. Keplinger, Jr., Johns-Mansville Sales Corp., A. F. Hinrichsen, A. F. Hinrichsen, Inc., and Walter Heibel of Aerofin Corp. The handicap committee was re-elected in its entirety, consisting of J. Barton Garfield, American Radiator Co., captain; William W. Hubbard of Hubbard & Lange and Harold Townsend, Chas. Hartman Co. The nominating committee consisted of F. A. Murray, Powers Regulator Co., Harold Townsend and A. F. Hinrichsen.

Heating Conference

The second Heating and Air Conditioning Conference will be held at Iowa State College, Ames, Iowa, April 7-9. Topics which will be discussed at the meeting include: Developments in Heating; Economical Design of Warm Air Heating Systems; Radiator Heating of the Future; Developments in Humidification, Air Cleaning and Air Washings, Heat Losses and Efficiency of Fuel in Residence Heating; How to Operate an Oil Fire Heating Plant Efficiently; The Use of Iowa Coal in Residential Stokers; Servicing and Maintenance of Coal Stokers; Automatic Controls; Cooling Requirements for Summer Comfort; Sumer Air Conditioning for Residences; Technical Problems of Air Conditions; and The Future of Air Conditioning.

Held in conjunction with the conference, there will be an exhibit of latest developments in heating, air conditioning and control equipment. The conference is open to all persons interested in the allied subjects of heating and air conditioning.

The following opinion recently has been handed down by the Supreme Court of North Carolina affirming licensing laws? "It is the unanimous opinion of the Supreme Court of North Carolina that in cities or towns of over 3,500 population the city officials have the right to require persons, firms or corporations to receive a license from the board of examiners of plumbing and heating contractors before operating the business of plumbing or heating. It also is the unanimous opinion of the . . court that the . . laws of 1931 requiring the licensing of plumbing and heating contractors is constitutional. . ."



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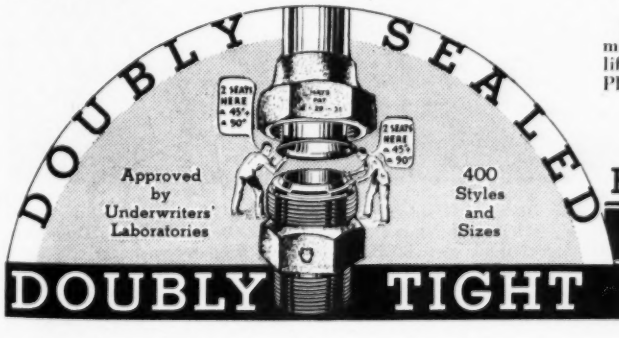

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Maine Urges Licensing

• *E. R. Graham elected president of Maine State Master Plumbers Assn. at annual convention held in Lewiston, March 9—Association favors passage of bill licensing all master plumbers in state*

The annual convention of the Maine State Master Plumbers Assn., which was held at the De Witt Hotel, Lewiston, Me., March 9, was featured by activity on statewide plumbing problems. Officers elected at this meeting are as follows: E. R. Graham, Bar Harbor, president; Wilbur F. Blake, Portland, vice president; J. J. Hennesey, Augusta, treasurer; and Irving M. Curtis, Auburn, secretary. The board of directors has the same membership as last year.

Licensing Act

One of the steps taken at the convention was to empower the legislative committee of the association to continue its efforts toward securing the passage of a licensing act. Such a bill has the support of the state board of health. Its provisions are for the licensing of all master plumbers in the state. All master plumbers now engaged in business would be exempted from taking the licensing examination, but all future master plumbers would be required to pass such an examination before engaging in the work.

A resolution passed at the convention placed the association on record as favoring the national plumbing apprenticeship training plan and stated further that the state association should work with the N.A.M.P. in promoting apprenticeship work. A further provision of this resolution was that the association should tie-in their work on the subject with the activities of the Maine State Industrial Institute towards the promotion of apprenticeship in plumbing.

P. W. Donoghue, N.A.M.P. director, brought the greetings of President Werner and then in a short address briefly discussed the activities of the national association. In his remarks he stressed the importance for state organization. To give point to his remarks he mentioned the three branches of the industry and declared that if it is true that all three are equally important, it is equally true that not one of them is blameless when blame must be given for the evils which confront the industry. Plumbing codes which apply to small cities and rural areas are equally as important as those for larger metropolitan communities, said the speaker. To continue this thought, he stated that plumbing inspection is a vital necessity in all communities.

Fixture Tagging

It was brought out by the speaker that the tagging of fixtures is a benefit to all legitimate master plumbers as well as a further protection for public health. Not only would the sale of improper plumbing fixtures be retarded by such action, said Mr. Donoghue, but also would eliminate much of the menace of cross connections. The thought developed by the speaker was that if the proper legislation was passed no plumbing fixture could be installed in the state if it did not carry a tag of approval from the local plumbing inspector.

Philip S. Bailey, past president of the Massachusetts association, discussed in detail the work which has been, and is being done in the state. The speaker declared that much has been accomplished through co-operation between the state board of health and the state and local associations. At the present time a law is in force which requires the approval of local plumbing inspectors on all plumbing jobs in cities and towns of over 5,000 population in the state. He went on to state that the board of health is working to put more teeth into this law and make it applicable to all towns and rural districts regardless of their population. In conclusion, Mr. Donoghue discussed the value and application of pressure and temperature relief valves on domestic hot water systems.

Septic Tanks

Dr. Elmer W. Campbell, director, division of sanitary engineering of Augusta, who had been scheduled to attend, was prevented from doing so, but in his place was Mr. Wendel who outlined the results of some of the tests the department had made on septic tanks.

Robert S. Hull, field representative of the Social Security Board, Portland, Me., discussed in detail just what each master plumber was required to do under the provisions of the Act.

The convention committee was made up of the following men: Irving M. Curtis, Auburn; Herbert J. Parent, Lewiston; and Wilbur Blake, Portland.

Left to right, top row: Iver Iverson, Portland; E. R. Graham, Bar Harbor, president; George Noyes, Presque Isles, past president; Wilbur F. Blake, Portland, vice president; Irving M. Curtis, Auburn, secretary; Al. Gustafson, Boston; P. W. Donoghue, national director; Philip S. Bailey, past president, Massachusetts association; and R. B. Lane, New England manager, Standard Sanitary Mfg. Co. Bottom row: Clayton H. Prouty, Standard Sanitary Mfg. Co.; Elmer L. Ring; John J. Hennesey, Augusta, treasurer; W. Johnson; J. G. Fowler, Brown Wales Co.; William Eisenhower, Anderson Products Co.; and C. A. Sadler, Brown Wales Co.

Local Activities

• *Spot reports from various local associations all over the country show results of recent elections*

In order to present a full and complete picture of association activity, DOMESTIC ENGINEERING has contacted the secretaries of local associations for reports on news as it develops there. As the height of the convention season draws near, it is more important than ever that recognition be given to the men of local associations, who in no small part are responsible for the success of state association conventions. Such news has been a feature of the past several months' issues and will be continued in the future. The news which appears below has been divided alphabetically into the respective states in which the associations are.

California

Master Plumbers Assn. of Glendale, elected and installed the following officers at a recent meeting: president—Paul Butterfield; vice president—Philip Moyle; secretary—Charles Watson; and treasurer—Daniel Hunsberger. The installing officer was Roy F. Johnson, vice president of the state association.

Missouri

The Associated Plumbing and Heating Contractors, Inc. of Springfield at the annual election of officers held recently shows the following slate: R. H. Drussa, president; J. B. McCarty, vice president; A. B. Utley, treasurer; and C. D. Dunlap, secretary.

New Jersey

The Master Plumbers Assn. of Hawthorne has announced that the present officers of the association are as follows: Ownie Van Dyk, president; Anthony Alliegro, vice president; William F. Garrison, secretary; and L. Van Fleit, treasurer.

Nutley—Belleville Master Plumbers Assn. elected these officers at a meeting held February 5: Francis Booth, president; Joseph Priester, vice president; Anthony Ciardi, secretary; and John Mazza, treasurer. The officers were installed by George McVoy, state president, assisted by John Morel, state secretary.

Plainfield Master Plumbers Assn., has the following slate of officers: president—Walter Chandler; vice president—Edward Simon; secretary—John Morel; and treasurer—C. Edward Krausse.

The Master Plumbers Assn. of Summit and Vicinity was reorganized March 1 with these officers: Edward Phipps, president; Alex. Twombly, vice president; and Harry Anderson, secretary-treasurer. Trustees will be elected at the next meeting of the association. Lester Wake, field man, was present at the meeting and helped with the reorganization. The newly formed association has made plans to attend both the state and national conventions in a body.

New York

Assn. of Master Plumbers of the Borough of Brooklyn has the following newly elected officers: Abraham Lipsky, president; Martin J. Hayden, vice president; Henry D. Jost, treasurer; Morris Horowitz, secretary; Louis S. Nielsen, financial secretary; Patrick F. Halloran, marshal; and Abraham Cohn, sergeant at arms.

Schenectady Master Plumbers Assn. elected these officers at a meeting held late in January: Chester Day, president; Charles J. Audette, vice president; Charles G. Burch, treasurer;

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William D. Atkins, secretary; and William M. Clute, sergeant at arms.

Ohio

Northern Columbiana County Master Plumbers Assn. reports the following officers for the association: Harry Dill, president; Paul Webber, vice president; and J. R. Stratton, secretary-treasurer.

Toledo Assn. of Sanitary and Heating Engineers recently elected these officers: Grime Gladieux, president; Clarence Dienst, vice president; and W. O. Danield, secretary-treasurer.

Pennsylvania

Lower Bucks & Montgomery County Master Plumbers Assn. has elected the following officers: William P. Meldrum, president; Nathan Fry, vice president; James P. McEntee, secretary; and Walter R. Garvin, treasurer.

Washington

Associated Plumbing & Heating Merchants of Seattle have reported that the following men have been elected to office in the association: Ben Barrow, president; Paul Thorgaard, vice president; Dan C. Smith, secretary-treasurer; and W. F. Frizlen, executive secretary.

These columns always are open to news from local associations. Secretaries of local associations or chairmen of publicity committees are urged to forward news of their groups as soon as possible so that it can be published while still current. Elections of officers and other activity of local associations is important and for that reason such associations should take full advantage of this opportunity. Any photographs which are taken at local meetings will be studied for publication also. All such news and photographs should be sent to DOMESTIC ENGINEERING, 1900 Prairie Ave., Chicago.

Course

The University Extension Division of Rutgers University has announced that its course in air conditioning has been revised and enlarged. The course is intended particularly for those engaged in the engineering, sales and service divisions of utility companies as well as those concerned with the design, manufacture and installation of equipment. The course offered consists of fourteen sections concerned with: heat and heat transfer; heat and humidity; heating; psychrometric chart; cooling fundamentals; cooling; heating, cooling, humidifying and dehumidifying equipment; refrigeration; filters; gas consuming air conditioning equipment; fans and air distribution; control apparatus; applications of control apparatus; and developments and trends.

Further information on the course can be obtained from the University Extension Division, Rutgers University, New Brunswick, N. J.

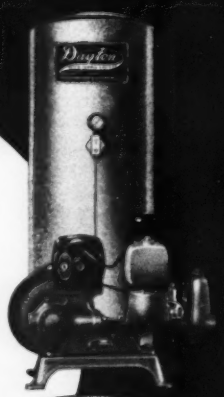
Game Dinner

The annual game dinner of the North Hudson Master Plumbers Assn. was held at the Old Homestead, West New York, N. J., recently. Besides the dinner a floor show and a program of dancing had been arranged. The committee in charge of the affair consisted of the following men: Fed Baker; John Blaum; Larry Bender; Dan Thurnau; and Nick Triani.

Coal Short Course

Approximately 600 are expected to attend the annual short course in coal utilization sponsored by the University of Illinois, May 25-27. Several of the topics to be discussed are new developments in home and industrial heat plants, stokers, advertising, handling complaints, new methods of coal preparation and treatment, tests and chemical problems.

In Plumbing Circles ...They're Talking DAYTONS



More plumbers are actually selling and installing Dayton Water Systems this year than ever before. This means that not only is there the greatest market for water systems ever known — but there's a very definite TREND TO DAYTONS.

This trend is the natural result of 29 years' experience in making pumps, an aggressive sales campaign backed up with good advertising and a splendid record of fair dealing—both with customers and dealers.

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Hydron metallic bellows, formed from one-piece, thin wall tubing of the highest grade, are used as control elements in temperature and pressure control devices, and for liquid or gas seals on compressors and pumps.

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Legislation Discussed

• *47th annual convention of Kansas Master Plumbers Assn. held in Hutchinson, Kan., March 15-16—H. P. Dunaway elected president*

The forty-seventh annual convention of the Kansas Master Plumbers Assn. was held in Hutchinson, Kan. at the Leon Hotel, March 15-16. The meeting was featured by a presentation of state and national legislation confronting contractor-dealers.

The year's slate of officers elected at the meeting was as follows: H. P. Dunaway, Wichita, president; K. W. Talbott, Pratt, vice president; Harry L. Stevens, Hutchinson, treasurer; and C. A. Preston, Wichita, secretary. Five zone vice presidents will be named in the state. These zone vice presidents, together with the newly elected officers will make up the board of directors of the association.

Legislation

William Newmark, Lawrence, secretary of the Allied Business Men of Kansas, was the speaker who introduced the subject of legislation. In his talk he explained the Robinson-Patman Act and then answered questions asked about it. Mr. Newmark also discussed the state fair trade practice act which was signed by Governor Huxman a few days before the convention opened. The signature of the Kansas act made it the twenty-third state to enact such legislation. The act as it stands in Kansas, said the speaker, permits manufacturers to establish and maintain minimum retail prices for their products such as automobile manufacturers now do on the price of cars. "The consuming public will be benefited by this act because of a leveling and stabilization of prices" Mr. Newmark said.

A talk by H. O. Green, Tulsa, Okla., national association treasurer, was more specifically along straight plumbing lines. Mr. Green reported on the progress of the survey of Federal buildings in New York City and Detroit. "The very fact that a trained force of men will emerge from this study to continue a survey throughout the country is an acknowledgment on the part of the Federal government of the vast importance of sanitary plumbing," stated Mr. Green. Another point mentioned in Mr. Green's address was concerned with the national scholarship fund, by means of which eight sons of master plumbers are given a college education at Carnegie Institute of Technology. Evans W. Cheeseman, Coffeyville, son of O. M. Cheeseman who attended the convention is the only Kansan to win such a scholarship to date.

In his opening address, President Lansdowne pointed out the various evils which beset the industry today. The greatest of these in the opinion of the speaker was that contractor-dealers have lost faith in one another and have tried to go on their way alone. President Lansdowne declared that if conditions are to be bettered, there must be more co-operative effort.

Air Conditioning

Harry L. Stevens, treasurer, and Frank G. Herman, district manager of the Furblo Co., led a discussion on air conditioning. Following this, the association by unanimous vote approved a resolution advocating that the Public Works Administration adopt a policy whereby plumbing and heating contracts should be let separately from the general contract in all PWA work. The resolution advocated further that its provisions should be brought to the attention of architects as well as PWA engineers.

C. B. Nash, vice president, Standard Sanitary Mfg. Co., urged that there should be more organization and pointed further to the necessity for close co-operation with health authorities in seeking stricter plumbing regulation. In conclusion, Mr. Nash declared that the strength of plumbing contractor-dealers lies in numbers and that strenuous efforts should be made to enroll more members in local, state and national associations.

Social Security Act

Ramifications of the Social Security Act were explained by Perry S. White, manager of Cornell & Co., Hutchinson accountants. Mr. White explained the requirements for forms and the methods of preparing returns. The debating team from Hutchinson High School presented a debate before the convention on the proposition that: "All Electric Utilities Should Be Governmentally Owned and Operated."

Members of the resolutions committee were as follows: W. T. Polley, Hutchinson, chairman; Oscar Robertson, Wichita; and William Ball, Kansas City. The memorial service for the three members of the association who died during the year was in charge of the following members of the memorial committee: George Sutherin, Topeka; and K. S. Sawyer, Hutchinson.

Officers elected at the annual convention of the Kansas association. Left to right: K. W. Talbott, Pratt, vice president; Harry Stevens, Hutchinson, treasurer; and H. P. Dunaway, Wichita, president

Special Train

Arrangements have been completed by the Chicago association for special cars to convey the Illinois-Wisconsin delegations to the national convention at Atlantic City in May.

National director Thos. F. Hanley, Jr., of Chicago, who is also president of the Chicago association, with Chas. E. Gawne, president of the Illinois association, and Henry J. Smith, president of the Wisconsin association, extend a cordial invitation to the master plumbers in the central and western states who contemplate making the trip to accompany the Illinois-Wisconsin special.

The party has decided to leave Chicago from the Union Station, on Saturday, May 22, via the Pennsylvania Railroad at 1:30 p. m. and arrive at Atlantic City on Sunday morning, May 23, at 10 a. m.

The Milwaukee and Chicago delegations, well known for thefr hospitality, in accordance with their usual custom en route to National Conventions, will have a well stocked Commissary aboard. In the event 75 or more peo-

ple are in the party, a special will be run as the second section of the regular train.

It is now fourteen years since the national association held its annual convention at Atlantic City, and many of the delegates from the middle west are looking forward to a visit to the seashore once more. The trip by train, it is anticipated, will be very enjoyable and give the master plumbers and their ladies an opportunity to renew acquaintances with their friends in the trade.

Reservations may be made either direct with the City Passenger Agent of the Pennsylvania Railroad, 33 N. LaSalle St., Chicago, or through Peter M. Munn, Secretary of the Chicago Plumbing Contractors' Assn., 176 W. Adams St., Chicago.

Englewood Meeting

The Crusaders were in attendance at the meeting of the Englewood, N. J., association on March 8 at Fritz's Hall, Englewood. Approximately 50 were in attendance including: George McVoy, state president; E. J. Geyer, first vice president; George H. Brenner, second vice president; Louis Maier, president of the state heating association; Ira H. Morris; and Lester Wake, state field man.

Coast H. P. A. C.

Around a table at the Hotel Alexander Hamilton in San Francisco there were gathered upward of 80 members of the local chapter of Heating and Piping Contractors National Assn., representatives of the Pacific Gas and Electric Co., and guests, on the evening of March 2. The meeting was called to present the sales policy of the utility and to show the market possibilities in the commercial-industrial field: this in order to promote the sale of burner and large scale heating apparatus by the contractors, and raise the gas load for the utility.

The principal speaker was R. T. Stephens, supervisor of industrial gas and electric sales, who made presentation of the utility's sales policy: (1) to sell the utilization of gas; (2) whenever practicable, to have all appliances, equipment or fixtures furnished, delivered and installed by the contracting trade; (3) where use value has not been proved, trial and test installations may be made to demonstrate the superiority of gas fuel; (4) tests to establish costs of operating with competing fuels. These four points were the high lights of the program.

Pointing to the merchandise value, including installation costs, of industrial-commercial work in 1936, amounting to $307,000 in San Francisco, Mr. Stephens indicated the 1937 quota had been set at $345,000. To assist in reaching this goal, the company has fourteen men in the field—eleven salesmen, one architect contact man, one estimator and a chief. As indicative of the close co-operation between the utility and contractor groups, the speaker concluded with, "These men, gentlemen, are your representatives in the field as much as they are ours."

Other speakers were: Henry Bostwick, manager, San Francisco division of the company; Frank Talcott, division sales manager; George L. Works, assistant supervisor, industrial gas and electric sales. President Scott of the association, spoke briefly on the value of untility-contractor co-operation, which has been in effect locally for some years.

At a recent meeting of the association, the following named officers were chosen for the current year: president, W. P. Scott, Jr.; vice president, B. Brace; secretary, A. G. Atwood; and treasurer, A. C. Rodoni. Additional directors are: George Sweeny, Charles Gibbs and Otto Anderson.

Third Dealer Meeting

Inaugurating a sales drive aimed at making the coming spring and summer months outstanding in the sale of plumbing and fixtures for bathrooms and kitchens, 45 plumbing and heating contractor-dealers gathered at the Georgian Hotel, Evanston, Ill., on the evening of March 5, for the third dealer meeting of the Evanston branch of Crane Co.

The meeting was not without precedent, two similar affairs held in the past year having produced exceptionally good results. At the first meeting, held in the spring of 1936, cabinet sinks were the focus point, dealers attending that meeting selling more than $20,000 worth of cabinet sinks in the ensuing months. At the second meeting, held in September, 1936, methods of selling radiator heat were studied, with the result that this type of heating equipment has regained its former popularity among home owners in the suburbs north of Chicago (see DOMESTIC ENGINEERING, January, 1937, page 86).

The meeting was presided over by C. J. Cullen, manager of the Evanston branch, who described the features of a new line of bathroom fixtures placed on the market by his company. Further details of these fixtures were given in a moving picture film, and there was another film showing successful selling methods. George Hoffman, Jr., outlined the company's seven-point plan of sales helps, while Murray Wright, of the Premier Heater Division, gave some valuable pointers for selling gas water heaters. Charles E. Barrows, manager of the Chicago branch, spoke briefly at the meeting.

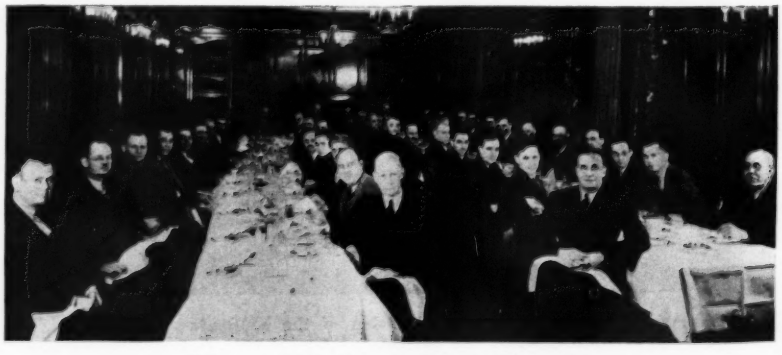
Andrew R. Park, of Winnetka, Ill., president of the North Shore Plumbing and Heating Contractors Assn., Freeman Abbott, of Lake Forest, Ill., president of the Lake County Sanitary and Heating Engineers Assn.; and A. J. Butow, of Evanston, president of the Northeast Plumbing and Heating League, spoke for the members of their respective organizations.

V. J. Killian, of Winnetka, remarked that plumbing and heating dealers should make a determined effort to secure more editorial comment in their local papers concerning the importance of good plumbing.

Mr. Park said he would like to see manufacturers make a trade in allowance on old plumbing fixtures, the same as is now done by automobile dealers.

Becomes Inspector

William Drexler has been made chief plumbing inspector of the Bureau of Plumbing, Syracuse, N. Y. Mr. Drexler, a plumbing contractor-dealer and a former alderman, fills a position which has been vacant for some time.



Taken at third dealer meeting in Evanston

New A.S.H.V.E. Unit

Tentative plans for the establishment of a Birmingham, Ala. branch of the American Society of Heating and Ventilating Engineers were made at a meeting held March 22. A. V. Hutchinson, national secretary, was present at the meeting. Arrangements were made by Harold V. Fried and C. P. Lichty. Officers will be elected at a later meeting.

Meeting at Camden

A feature of the meeting held March 4 by the Camden, N. J., association was a motion picture presented by Crane Co. Charles Sims, manager of the Camden branch of the company, conducted the meeting and introduced the following Crane Co. men: James Dwyer, eastern regional manager; Henry Officer, manager of the Philadelphia branch; and Russell Margurm, Robert Hunter, Frank Stephens, all of the Philadelphia branch; Edward Lynch, Camden branch; and H. A. Bergdahl, Chicago.

Mr. Dwyer made a short speech in which he urged more active merchandising activity on the part of contractor-dealers and pointed out the important place which they occupy in a picture of the entire industry. Following this, Charles Knecht, president of the association, conducted the business session. One of the actions taken was approval of the code of business ethics recently presented in Philadelphia. It was decided that a committee should be appointed to call upon the utility company to work out some plan in connection with the sale and installation of gas water heaters.

Revised Ordinances

The Municipal Reference Library of the City of Chicago has reprinted in mimeographed form those sections of the revised Chicago code of 1931 relating to ventilation, with amendments passed by the Chicago City Council up to and including March 1, 1937. The reprint contains 64 pages and an index. Copies of the revised ordinances, which cost twenty five cents each, may be obtained from the Municipal Reference Library, Room 1005 City Hall, Chicago. There is a five cent mailing charge.

New York A.S.H.V.E.

At the March meeting of the New York chapter of the American Society of Heating & Ventilating Engineers, some new facts were given on radiant heating and cooling. Late developments both in this country and in Europe were reviewed by the speakers and illustrated with motion pictures. To discuss this subject, the following speakers were secured by the chapter officers: Dexter Purinton, engineering vice president, Mahony-Troast Construction Co.; Dr. Arthur M. Greene, Jr., Dean of School of Engineering, Princeton University; Claude Schmitt, Stralingswarmte Representative, Emile Nessi & Fils & Bigeault, Paris; Dr. A. H. Cone, Westinghouse Electric & Mfg. Co.; and Leon Munier, Wolff & Munier, Inc., New York.

Housing Study Tour

The second housing study tour of Europe will be sponsored this summer by the National Public Housing Conference, New York City. The itinerary for the tour includes fifteen cities in England and continental Europe. Members of the study party will attend sessions of the International Housing and Town Planning Congress. The party will sail from New York City, June 23 and will return August 17.

Included in the countries to be visited are: England; Holland; France; Switzerland; Germany; Austria; Poland; Russia; Finland; Denmark, and Sweden.

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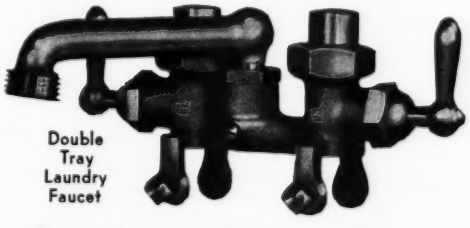

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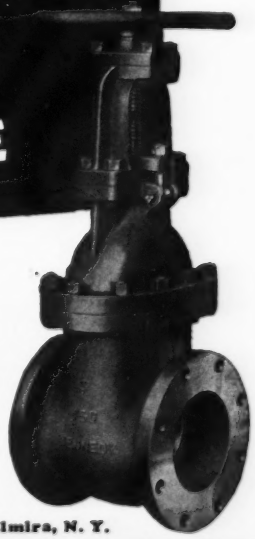

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VALVES-PIPE FITTINGS-FIRE HYDRANTS

BUY KENNEDY PRODUCTS FROM YOUR LOCAL DEALER

H. P. A. C. Convention Plans

• *Preliminary convention program for forty-eighth annual of Heating, Piping and Air Conditioning Contractors*

A tentative program for the program at the forty-eighth annual convention of the Heating, Piping and Air Conditioning Contractors National Assn. has just been released. The convention will be held at the Hotel Nicollet, Minneapolis, Minn., May 17-19.

May 17, 1937

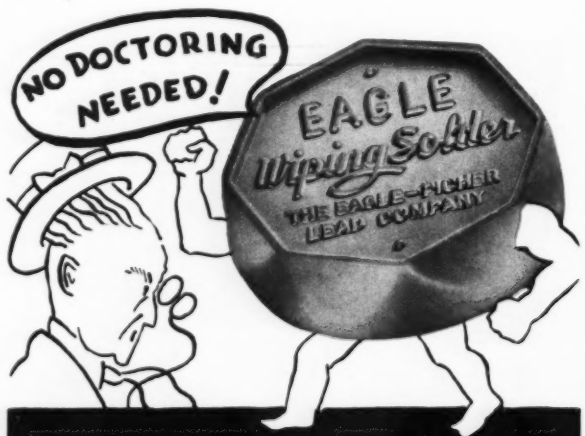
9:00 A. M.—Meeting of Board of Directors
Secretaries' Conference
10:00 A. M.—Registration of Members and Guests
2:00 P. M.—Opening Session—Everybody Welcome
Address of Welcome—Mayor of Minneapolis
President's Address—John H. Zink
Appointment of Convention Committees
Report of Treasurer—M. J. Chagnard
Report of Auditing Committee
Address
Report of Secretary—Joseph C. Fitts
Report of Educational Department—S. Lewis Land, Educational Director
Adjournment
8:00 P. M. —Round Table Conference for Members and Secretaries on Voluntary Codes

May 18, 1937

9:30 A. M.—Call to Order
Report of Membership Committee—M. J. Chagnard, General Chairman
Discussion of Report
The Plumbing and Heating Industries Bureau—George H. Dickerson
Report of Legislative Committee—Howard E. Crook, Chairman
Discussion of Report
Report of Committee on Welding—F. C. Fantz, Chairman
Discussion of Report
Report of Committee on Air Conditioning — J. Lawrence DeNeille, Chairman
Discussion of Report
"The Disappearance of Trade and Industrial Skill and Knowledge"—Address, Dr. Charles A. Prosser, Dunwoody Institute
Report of Committee on Certification —T. F. Hanley, Jr., Chairman
Discussion of Report
Report of Committee on Standards—George P. Nachman, Chairman
Discussion of Report
2:00 P. M.—Call to Order
Report of Committee on Trade Promotion—Walter Klie, Chairman
Discussion of Report
Report of Conference Committees—With National Association of Master Plumbers — With Industrial Unit Heater Association
Discussion of Report
Forum Hour—Problems of Distribution in the Industry, Walter Klie, presiding
8:00 P. M.—Dinner Dance

May 19, 1937

9:30 A. M.—Call to Order
Report on Construction League—John H. Zink
Discussion of Report
Report of Boiler Output Committee—Harry M. Hart, Chairman
Discussion of Report
Address
Report of Special Committee on Resolutions
Discussion of Report
2:00 P. M.—Call to order
Report of Convention Committees
Election of Officers
Unfinished Business
New Business
Adjournment



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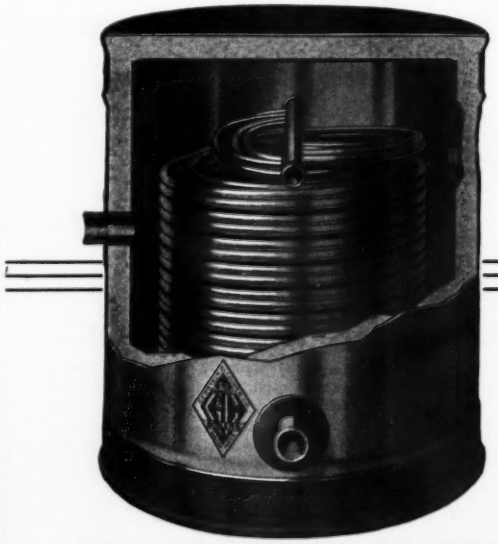

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Fourth Regional

• *National association officers present at fourth regional meeting of Pennsylvania association held in Philadelphia, March 13*

Officers of the national association headed by George H. Werner, N.A.M.P. president, were in attendance at the fourth regional meeting of the Pennsylvania association which was held at the Bellevue-Stratford Hotel, Philadelphia, March 13. One of the chief topics discussed at this meeting was concerned with legislation affecting plumbing within the state.

President Werner's address was concerned with the activities of the national association. In his introductory remarks he spoke on the coming national convention which will be held in Atlantic City. He declared that 154 booths in the exhibit space already had been sold and that there is a strong indication that the remaining 24 will be allocated before very long. Portions of President Werner's address follow.

Werner's Address

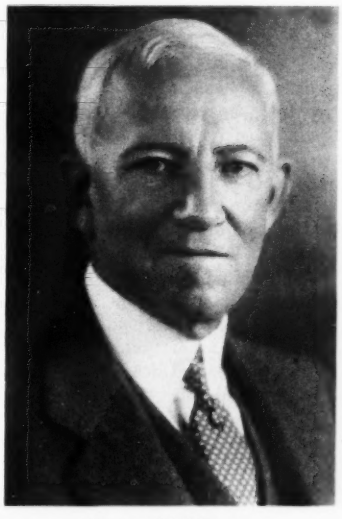
"I see I am scheduled on the program for a talk on the activities of the national association. In short, I am asked to answer the perennial question of 'What is the national doing?'

"What I'd like to talk about, instead of what the national is doing, is to ask you what **you** are doing for yourselves. By the word "you" I don't mean your state association or your local association. I mean **you** as an individual, in your plumbing shop. I repeat the question, 'What are **you** doing for yourself?'

"The troubles which beset the master plumber did not come overnight, nor are they the evidence of the wrath of some malignant deity. The troubles that beset us, just like the troubles which beset the generality of people, come to us through the cumulative effect of our own actions. It follows, therefore, that the correction of these troubles will come largely from the cumulative effect of our actions as individuals. I don't think master plumbers are any different, basically, from anyone else, so I am not maligning the master plumber when I say that many of them are careless in their daily business affairs to a point where they do more harm to themselves than they do good. Let me illustrate this point by a practical example:

"We talk a lot about distribution in the plumbing industry. Just recently 500 or 600 people gathered in Philadelphia to talk about a code of ethics. Yet, if every master plumber operated his own business in the light of the best interests of master plumbers generally, you wouldn't need any code of ethics, and you wouldn't have to get down on your knees to beg the other branches of the industry to shoot square with you.

"I will go even further than that statement, and say that if 50 per cent of the master plumbers would conduct



George H. Werner

their own business properly, you wouldn't need any code of ethics. Here is the way it works out: I am sitting in my shop and a customer walks in and wants a plumbing job done. I don't have the fixtures in stock, and maybe some of the other materials. So in order to do the job, I am forced to purchase the fixtures and part of the materials from some source of supply. Right at this point I have an opportunity to help master plumbers, or to make things tough for master plumbers generally—and I don't mean just the master plumbers in my city and my state, but master plumbers all over the country.

"Confronted with the necessity of purchasing some material, I make my first move. I either call up a wholesaler and ask him for a price, or I wait until the salesman calls on me. In the former case, if I shop around on the 'phone to buy the few little things it takes to do the job and purchase the material from the lowest priced source of supply, without regard for the manner in which he conducts his business, then the probability is that I am doing more harm to master plumbers generally than good. In the latter case, if I pit one salesman against another in an attempt to extort from them every possible price concession, and purchase from the lowest priced salesman without regard for his general business conduct, then again the probability is that I am doing master plumbers harm, including myself, even though I don't realize it. It follows as inevitably as day follows night that by encouraging the unscrupulous, unethical and destructive source of supply through purchasing from him, in the mistaken belief that we can save a few pennies, we are bringing about our ears the magnificent structure of distribution erected by our predecessors who, fortunately, were less selfish and more intelligent than we are.

"'All right,' you will say, 'I never go to gyp houses, but confine my purchases to legitimate wholesalers and I do everything I can to build up, rather than destroy the master plumber. It is the other fellow who is tearing down what I am trying to build up.'

The "Other Fellow"

"I don't know who this 'other fellow' is that I hear so much about in my travels around the country. When I appear before a local association, the 'other fellow' is the man on the outside of the association. When I talk to men who aren't in the association and ask them why they're not in, many of them tell me that it is because of the 'other fellow' in the association tearing down what they are trying to build up that they don't join. Let us not delude ourselves on this point. Membership in an association doesn't automatically wash away our sins. If we look at it honestly, aren't we really the 'other fellow' that some other fellow is talking about? We've got to purge ourselves before we can criticize somebody else. We have to remove the beam from our own eyes before we can cast out the mote in our brothers' eyes.

"As Confucius once said, 'We must first bring order into our own lives before we can expect others to be orderly.' These sources of supply, no matter what their category may be, adjust their conduct, their sales policies, the kind of merchandise they carry, and all that relates to their business to the wishes and desires of their customers. If they see that it is profitable to them to delude, defraud and destroy master plumbers, and we say nothing about it, then they will conduct their business in that way. But if they see that transgressing from the accepted ethical standards of the industry brings a quick shift of patronage by the conscientious master plumbers, then they

will change their ways and conduct their business in a different fashion.

"There are two things you have to do if you want your local, state and national associations to become increasingly effective. The first of these things is to make every one of your business acts, as it relates to the other branches of the industry, enhance the position of master plumbers generally. The second thing you have to do, once you have brought order into your own business is to get hold of the other fellow, less intelligent than you and possibly less experienced than you, who lives right around the corner and tell him that the things he is doing are contributing not only to his own downfall, but to that of master plumbers generally. If you can get him into the association, so much the better, but more important than getting him into the association is bringing to him the point of view which I have tried to convey to you; namely, that every business act we perform either builds up or destroys master plumbers generally.

"Help Yourselves"

"You invited me here to tell you what the national is doing; and I turned around and told you what you should do for yourself. That is the proper order. First help yourselves; and then your local, state and national associations can help you."

Dr. William C. Huntsicker, chairman of the board of plumbing supervisors, welcomed the meeting to Philadelphia and spoke on the excellent cooperation his department had received from plumbing contractor-dealers. In conclusion he praised Henry O. Heiser, state president, for the work he had done to secure a state wide plumbing code for Pennsylvania.

Other information on pending plumbing legislation was presented by Philip Hering, Jr., chairman of the legislative committee. He declared that the three big issues are: Bill No. 482, "An act regulating the letting of certain contracts for the erection, construction and alteration of public buildings"; Bill No. 440, "An act providing for the examination, licensure and registration of persons, firms or corporations engaged in . . . plumbing or house drainage and cesspools in cities of the second class . . . extending the provisions of said act to boroughs, incorporated towns and townships of the first class . . ."; and Bill No. 931, "Regulating the sale, exchange, removal and installation of certain plumbing fixtures in cities of the first class." In conclusion, Mr. Hering urged all the members to write to their senators and representatives asking them to support the three bills.

Robert H. Pflug-Felder, national director, sketched the growth of national association activity. In his address, Mr. Pflug-Felder touched upon the Robinson-Patman Act and the code of business ethics which was presented at a meeting in Philadelphia. He then mentioned the objectives for which the national association has been striving since the time of its inception. Other points touched upon in the address were: the apprenticeship program, the work of the conference committee and standardization committee; the Plumbing and Heating Industries Bureau; research activity; and the coming national convention.

Apprenticeship

George Bird, national secretary, also spoke. His talk was confined to the activities of the national association. In so doing he complimented the Philadelphia association on the work they have been doing and upon their continued increase in membership. Edmund Ingram, chairman of the apprenticeship committee, told of the aims and objects of the national apprenticeship training program and urged its adoption in Pennsylvania.

John Lamond, president of the Philadelphia association, discussed the code of business ethics which was presented at a meeting in Philadelphia. In addition he read and explained the nineteen principles which make up this code. Ed. Geyer, vice president of the New Jersey association, spoke on activity in his state and discussed the work of the Crusaders, activities of the merchandising unit and the oil burner group as well as work being done on the state heating code and apprenticeship.

Other speakers included: George W. Whitwell, vice president, Philadelphia Electric Co.; Herbert F. Weldin, president, Delaware association; E. V. Wilhelm, vice president, Delaware association; C. W. Wanger, Woodward-Wanger; E. L. Penfrase, Copper and Brass Research Assn.; Robert Dick, Lead Industries Assn.; James Larmette, American Brass Co.; E. H. Meglathery, plumbing inspector, Bethlehem, Pa.; Robert Bowen, plumbing inspector, Philadelphia; E. D. Swoyer, William Ambrose, Harry Saeger, H. L. Righter and James H. Lutz, Jr., all past presidents of the Pennsylvania association.

Michigan Meeting

A very successful joint meeting of plumbing contractor-dealers and wholesalers was held at Adrian, Mich., on March 8. This meeting was under the sponsorship of the state master plumbers and wholesalers trades relation committee of which Frank Lent of Saginaw is chairman. Contractor-dealers from many surrounding towns were in attendance, including delegations from Jackson, Detroit, Coldwater, Ann Arbor and Ypsilanti.

Fred C. Sturmer of Jackson, president of the state association, outlined in general the purpose of the meeting and briefly covered the work which has been done by the trades relation committee. Howard Reed, secretary-treasurer of the state association, gave an interesting talk on the committee's work and urged everyone to attend the coming state convention. One of the other speakers was E. J. Dowsett, director of the state plumbing board, who reviewed the work of his department. He stated that much time and effort has been devoted to the state plumbing code for the past several months and if the new measures which have been recommended are adopted, they will increase plumbing sanitation throughout the state.

Ill. A.S.H.V.E.

- *Problems of air conditioning windowless building related at March meeting*

The high light of the March dinner-meeting of the American Society of Heating and Ventilating Engineers, Illinois chapter, held March 8, at Hotel Sherman, Chicago, was the talk given by Robert E. Hattis, consulting engineer, who described the problems encountered in air conditioning the windowless building of the National Aluminate Corp.; the advantages of a windowless building, and the methods adopted in solving the heating, cooling, ventilating and lighting problems peculiar to that building.

A building in an industrial district, Mr. Hattis explained, receives little through its windows except odors, dust, noise and smoke. Windows make a building hard to cool in summer and drafty in winter, and there is very little inspiration to be gained from viewing walls, engines, iron and smoke just a few feet away from one's window. Furthermore, windows are not the source of light they are thought to be. Most of the time they must be supplemented by artificial light to obtain uniform illumination. To get the benefits of window light, buildings must be shallow in depth, and often require courts, to expose as much wall surface to the outdoors as possible. The outside walls are expensive, and much valuable ground is wasted by this type of construction. On the other hand, a windowless building can be

made a solid square with a minimum of exterior wall; with great compactness of inside spaces, and with a saving of approximately 20 per cent in building cost.

Mr. Hattis further stated that were it not necessary to admit outside air for ventilation, a completely insulated, windowless building could be heated in minus 10 deg. Fahr. weather by the heat from the lighting alone. Of course a great deal of outside air is essential and the air conditioning system was designed to take in either all, or part, fresh air, but the heat losses were so reduced by the well insulated walls and roofs that even in winter weather most of the rooms had to be cooled when the lights were on and heated when the lights were off. Each room was equipped with a supply grill, a return grill and a vent grill. A thermostat in each room regulated the amount of heating and cooling supplied to that room.

Importance of Ventilation

Because of the importance of ventilation in a windowless building, provisions were made against the possible failure of the air conditioning equipment. To avoid the cost of another installation for emergency use, two identical systems were installed, each one designed to serve one-half of the building. The two systems were cross connected so that in an emergency the whole building could be served in some measure by either system. The cooling system provided for the use of cold outside air when available, but the main reliance was placed upon the cold water supply from two 300 ft. wells dug for that purpose.

A further elaboration of conditions encountered in digging wells for a cold water supply, was made by Harry Barton who has installed deep wells in Chicago territory.

One of the major points of his talk was, that water temperature increased as the deeper levels were reached. The shallow sand and gravel beds produced water as cold as 48 deg. Fahr.; the limestone layer, 100 to 200 ft. deep, produced water at 52 to 54 deg. Fahr.; the sandstone layer, 150 to 250 ft. deep, produced water at 52 to 55 deg. Fahr.; the red-black sandstones, 300 to 400 ft. deep, showed water temperatures from 56 to 60 deg. Fahr.; and the Mt. Simon sandstone layers, 500 to 600 ft. deep, have water temperatures around 70 deg. Fahr. The best water supply is usually found in the limestone and red-black sandstone layers, which sometimes produce over a thousand gallons per minute. Below the sandstone layer, however, the water is too warm to use for cooling.

Mr. Barton cautioned those seeking to sink a well to sink a few trial holes first, for in a 100 ft. square area the water supply may vary from zero to 1000 gallons per minute. Furthermore, if one goes too deep there is danger of striking salt water and then one has no well at all.

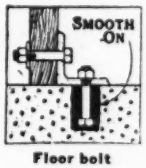
At the dinner in the Old Town Room and during the meeting in the Crystal Room, the Illinois chapter entertained members from the Milwaukee chapter. M. E. Erickson, president of the Milwaukee chapter, responded to the greeting of James J. Hayes, president of the local chapter.

Conference

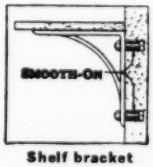
The department of mechanical engineering of the college of engineering of the University of Wisconsin has announced that a conference on air conditioning and automatic heating will be held at the university, April 21-23. The program will consist of lectures, demonstrations and exhibits. There also will be a manufacturers' exhibit in connection with the conference. All inquiries concerning the program and the exhibit should be addressed to Professor G. L. Larson, Mechanical Engineering Building, University of Wisconsin, Madison, Wis.

ANCHORING into CONCRETE is easy with SMOOTH-ON No. 1

CUT holes into the masonry with a cold chisel, insert bolts *with heads in* to form studs, and tamp remaining open spaces full of Smooth-On No. 1. Let the Smooth-On harden, then slip bracket, cleat or upright over the stud and fasten with nut or nut and washer. A ¼-in. bolt set this way holds a man's weight without loosening. Use this method to anchor pipe shelves and shelf brackets, partitions, wall cabinets, etc. Makes a strong permanently tight connection that meets every need.



Floor bolt



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Use Smooth-On No. 1 also to tighten loose parts such as screws, bolts, nuts, threaded connections, etc., and to stop leaks of water, steam, gas, oil and smoke. Applied cold, without special tools, and holds in any metal, concrete, masonry or wood. Full instructions and diagrams for hundreds of practical applications will be found in the Smooth-On Handbook.

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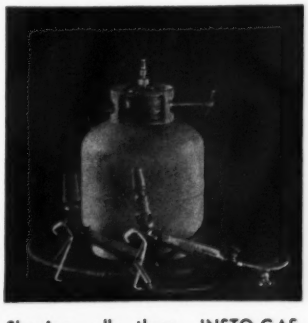
with ***Insto-Gas***



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5. Lights instantly under all conditions.
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Here is the portable heating equipment that every plumbing and air-conditioning contractor has been looking for. Insto-Gas will lower installation costs on any job.

Write for complete information.

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Buffalo Activity

An address by Fred Fleischauer, business manager of the Master Plumbers Assn. of Buffalo, N. Y., featured the "Father and Son" night of the organization at its headquarters on Feb. 25, which a large number of master plumbers and their sons attended. Other speakers were Captain Calvert K. Mellon, a veteran high school principal, and George Rose.

The sons of the plumbers also took a prominent part in the celebration. Quinton Renner, son of Fred Renner, played the harmonica; Roland Kennedy, grandson of a plumber, sang; Glenn Auer, youngest son present, played the accordion as did his brother Clyde Auer. Charles Fratantonio also played the accordion.

The members decided to make the event an annual feature.

Bowling Tournament

Once more the Milwaukee association members demonstrated their superiority in the art of bowling by defeating the north and north west side master plumbers bowling team of Chicago by a score of 2,655 to 2,628 in the annual bowling tournament held in Chicago on March 18. These tournaments have been held for the past 22 years.

The first prize for the high individual game of the series was won by P. J. Brown of Chicago with 256, and the second high individual score was won by H. Lepp of Milwaukee, who had 245 in the third game; he was awarded second prize. Third prize, was won by Al Hoffmann of Milwaukee with a score of 565 for the three games, and the fourth prize was won by J. Zawarscheck of Milwaukee.

For the first time in his bowling career the leather medal, which is awarded for the low score in the series, was pinned on Henry Swade of Chicago, but he expects to hand it back to some of his Milwaukee associates when they play a return match on April 22.

One hundred sixty master plumbers and supply men were in attendance at the tournament, which was held at the Lion's Club, 4300 W. North Avenue, Chicago. The Milwaukee contingent of 60, one of the largest delegations they have ever sent to a bowling tournament, made the trip from Milwaukee to Chicago in a special bus. At the dinner in the evening, Wm. Hildeman of Chicago Heights, treasurer of the Illinois Master Plumbers' Assn., acted as toastmaster, being introduced by Henry Swade, one of the past presidents of the North and West Side Master Plumbers' Pleasure Club. Al Grosch, president of the club, extended a welcome to the visitors from Milwaukee. Others introduced by the toastmaster from Chicago were: Paul Hamer, chairman of the entertainment committee, H. H. Diedesch; Perry Larson; Fred Binder, secretary; John Zajicek; E. J. Benning, president of the Milwaukee association; and E. B. Knauer, who extended an invitation to the Chicago men to visit Milwaukee for a return match on April 22. Other Milwaukee men who spoke were: George Hoffmann, chairman of the entertainment committee; Henry Wegner; Jacob Schuh; Peter King; Fred Keutermeyer; Otto Waskow; Jos. Brah; Elmer Faul, and Jack Dengle. The toastmaster also called for a few remarks from Peter M. Munn who represented the Chicago association and Wm. R. Brookman of the Illinois Master Plumbers Assn. and R. J. Weber.

District Heating

The National District Heating Assn. has announced a competition for members who have joined the association between January 1, 1934 and May 1, 1937. Four prizes have been announced for a paper, not to exceed 2,000 words, on the subject of generation, distribution or sale of district steam heating service. Prizes range from $50.00 to a year's free membership.

THE Blade to CUT Pipe Tubing Angles

WITH EASY-STARTING TEETH
A quick clean start. No slipping off the cutting line. A smoother finish. Longer wear.

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The Blade with Easy-Starting Teeth

MILFORD FLEXIBLE is the plumber's blade. Tough and safe, and cannot be broken in a frame.

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THE HENRY G. THOMPSON & SON CO.
NEW HAVEN, CONNECTICUT
Saw Makers for over Half a Century

SPECIAL SINKS to fit any space

Non-absorbing and non-staining, Alberene Stone is ideal for sinks and laundry trays. Tongue and groove joints with hidden bolts, permanently cemented, have the strength, solidity and tightness of one-piece units.

As you know, Alberene is natural quarried soapstone. Acid-, heat-, and wear-resisting. It can be shaped, sawed and fabricated in any desired shape or form without danger of chipping or spalling.

Order Alberene Sinks of any dimensions to fill any desired spaces. Shipment will be made within one week from the receipt of order and complete details as to sizes, openings, etc.

Write for special price on the Alberene 44" Laundry Tray, plain and in Duco colors.

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Tulsa Guests

Over 45 plumbing contractor-dealers from the Tulsa, Okla., area were guests of the following supply houses in Tulsa, March 24: the Peerless Tulsa Co.; Crane Co.; Cooper Supply Co.; and the Plumbers Supply Co. W. C. Green, secretary of the Kansas, Oklahoma and Missouri wholesalers association, gave an address on the importance and methods of proper bookkeeping for plumbing contractor-dealers. Mr. Molatesta of the Tulsa branch of Crane Co. was another speaker.

Visit Plant

One hundred and forty members of the Plumbing Contractors' Assn. of Chicago visited the Indiana Harbor Works of the Youngstown Sheet and Tube Co. on March 11.

Prior to the tour of the works, the plumbing contractors were entertained at a luncheon in the company dining room at Indiana Harbor. The party was welcomed to the plant by Arthur Purnell, district sales manager.

Brief responding addresses were made by Charles E. Gawne, president of the Illinois association; John J. Calnan, president of the Plumbing and Heating Industries Bureau; and Peter M. Munn, secretary of the Chicago association.

Obituaries

W. N. Pincus

Walter N. Pincus, 34, a member of the firm of Pincus and Schulhof, Chicago plumbing supply house, passed away March 22. Mr. Pincus had been interested in the plumbing business since 1905, at which time he started to work for Weil McLain, continuing with that firm until 1917. Together with Mr. Schulhof, he formed the firm bearing their name in 1919, and has been engaged in active business ever since.

William Redieske

William Redieske, 63, died suddenly of a heart attack on March 25. Mr. Redieske, who was sales manager of the Old Faithful Heater Co., at the time of his death, was engaged in the plumbing business with his brother Paul for a number of years at 99 Clybourne Ave., Chicago. He was a former president and an honorary member of the Plumbing Contractors' Assn. of Chicago, and was also a former secretary of the Illinois Master Plumbers' Assn. After giving up the plumbing business, Mr. Redieske accepted a position as secretary of the Iowa Master Plumbers' Assn., and for several years was secretary of the Minneapolis Retail Plumbers' Assn. Returning to Chicago about ten years ago, he became associated as sales manager with the Eagle-Picher Lead Co., covering the Chicago territory for this concern. He severed his connections with this firm about a year ago, and became sales manager of the Old Faithful Co.

William Redieske

Louis Wolff II

Louis Wolff II, 63, vice president and Chicago representative of the Crane Enamelware Co., Chattanooga, Tenn., died recently at his home, 438 Oakdale Ave., Chicago. He was the son of Ludwig Wolff, founder of the L. Wolff Manufacturing Co. After graduating from the University of Chicago, Mr. Wolff entered his father's firm and about fifteen years ago transferred his interests to the Crane Enamelware Co.

F. J. McCosker

F. John McCosker, 80, plumbing contractor-dealer of Montgomery, Ala., died in that city March 16. A native of Montgomery, Mr. McCosker got his early training in his father's plumbing shop. From 1888 to 1904 he served as plumbing inspector for Montgomery and later started his own plumbing business.

M. S. Good

Macy S. Good, 64, heating engineer, passed away March 3 at his home at 7416 Crandon Ave., Chicago, following a brief illness. Mr. Good was born at Richmond, Ind., and was graduated from Purdue University. For a number of years he had been associated with the Chicago office of C. A. Dunham Co.

J. D. Andrews

James D. Andrews, 62, at one time manager of the American Boiler Manufacturers Assn. and Affiliated Industries, died recently at his home in England, N. J. Mr. Andrews formerly was chief engineer for the Niagara Hudson Power Corp. He also was a consulting engineer for Armour & Co.

A. D. Flinn

Dr. Alfred Douglas Flinn, 67, director of the Engineering Foundation, died March 14 at the Heathcote Inn, Scarsdale, N. Y., after a long illness. He is survived by his wife, a brother and a sister.

H. H. Sommer

Henry H. Sommer, 70, president of the Export Plumbing Supply Corp., Woodside, L. I., died January 31. Approximately 35 years ago Mr. Sommer founded the American Plumbing Mfg. Co. in New York City and conducted branches in Detroit, Mich., and Rochester, N. Y., until 1931, when the company was succeeded by the Export Plumbing Supply Co. Mr. Sommer was active in the company management until the time of his death.

E. F. Byrnes

Emmet F. Byrnes, 55, vice president and director of the H. Kelly Co., Detroit, Mich., died March 3. Mr. Byrnes was born in Minneapolis, Minn. After his graduation from school he became associated with the Kelly company in that city. For the past sixteen years he had been located in Detroit. He is survived by his wife, a son and three sisters.

D. J. Barry

David J. Barry, 63, who had been in the plumbing business for the past 36 years, passed away March 10 at St. Anne's Hospital, Chicago. His plumbing shop was located at 4824 W. Chicago Avenue. He was an active member of the Chicago Plumbing Contractors' Assn. He is survived by a son.

Elihu Thomson

Professor Elihu Thomson, 83, one of the founders of the General Electric Co., died at his home in Swampscott, Mass., March 13. Among the many scientific achievements of Professor Thomson was the origination of the resistance method of electric welding. He

had received a number of scientific honors from various countries and was officer and member of innumerable engineering societies all over the world.

T. E. Duffy

Thomas E. Duffy, 62, well known Chicago master plumber, passed away at his home, 6901 Oglesby Ave., March 2. He had been in poor health for some time and had returned from Mexico City just a few days prior to his death. Mr. Duffy had been in the plumbing business for over 40 years at 6704 State St. He was the son of the late Police Captain Duffy of Hyde Park. Some years ago he practically retired from the plumbing business although his shop was still conducted under his name by his brother, Daniel, who will continue the business.

F. J. Dillenburg, Sr.

Frank J. Dillenburg, Sr., 57, Chicago plumbing contractor-dealer, passed away March 22 in Michael Reese Hospital following a heart attack. Mr. Dillenburg was born in Chicago and had been in the plumbing business for over 40 years. He is survived by one son, two daughters, a brother and three sisters.

W. E. James, Sr.

William E. James, Sr., 53, manager of the Desco Corp., Wilmington, Del., store, died March 19, after a short illness. He had been connected with the Desco Corp. for the past 31 years and had resided in Wilmington ever since he was a young man. Mr. James is survived by his widow and a son.

New Contractors, Business Changes

Hartford, Conn., E. J. Johnston Co., Inc., has established offices at 252 Asylum St., and will conduct a plumbing and heating business.

Lansing, Mich.—C. G. Brenner, Inc., has been chartered and succeeds to the plumbing and heating business of Charles G. Brenner, 1120 N. Washington St.

Redmond, Ore.—Spencer Brothers have engaged in the plumbing and heating business.

Burbank, Calif.—The Lincoln Plumbing Co., has been incorporated at 306 N. Frederick St., under the management of T. D. Demby.

Milwaukee, Wis.—H. C. Williams has established a plumbing and heating business at 209 N. Broadway.

Ocean Park, Calif.—The Park Plumbing Service has been established at 2804 Main St., by Henry J. Kuhlman and Finney Wheeler.

Milwaukee, Wis.—Edwin Dobner has established a plumbing and heating business at 3620 W. Lisbon Ave.

Convention Dates

April 12-13.—COLORADO. — Annual convention of the Colorado Society of Sanitary and Heating Engineers to be held in Denver, Colo., with headquarters at the Hotel Albany.

April 16-17.—C. S. A.—Spring meeting of the Central Supply Assn. to be held at French Lick, Ind., with headquarters at the French Lick Springs Hotel.

April 19-20.—OKLAHOMA. — Annual convention of the Oklahoma State Assn. of Master Plumbers to be held in Muskogee, Okla., with headquarters at the Severs Hotel.

April 19-20.—MINNESOTA.—Annual convention of the Minnesota State Master Plumbers Assn. to be held in St. Paul, Minn., with headquarters at the St. Paul Hotel.

April 19-21.—TEXAS.—Annual convention of the Associated Master Plumbers of Texas, Inc., to be held in Houston, Tex., with headquarters to be announced later.

April 19-21. — NEW YORK. — Annual convention of the New York State Assn. of Master Plumbers to be held in New York City, with headquarters at the Hotel Pennsylvania.

April 20. — RHODE ISLAND. — Annual banquet of Rhode Island State Assn. of Master Plumbers to be held at a city to be announced later.

April 26-27.—MISSOURI.—Annual convention of The Missouri State Assn. of Master Plumbers to be held in Hannibal, Mo., with headquarters to be announced later.

April 26-27. — KENTUCKY. — Annual convention of the Kentucky State Assn. of Master Plumbers to be held in Louisville, Ky., with headquarters at the Brown Hotel.

April 30-May 1.—VIRGINIA. — Annual convention of the Virginia Associated Plumbing and Heating Contractors to be held in Danville, Va., with headquarters to be announced later.

May 1. — IDAHO. — Annual convention of the Idaho Master Plumbers Assn. to be held in Boise, Idaho, with headquarters at the Owyhee Hotel.

May 5-6.—NORTH CAROLINA.—Annual convention of the North Carolina Assn. of Plumbing and Heating Contractors to be held in Raleigh, N. C., with headquarters at the Sir Raleigh Hotel.

May 6-8.—NEW JERSEY.—Annual convention of the New Jersey State Assn. of Master Plumbers in Newark, N. J., with headquarters in the Robert Treat Hotel.

May 10-12.—INDIANA. — Annual convention of the Indiana Assn. of Master Plumbers to be held in Gary, Ind., with headquarters at the Hotel Gary.

May 10-13. — CALIFORNIA. — Thirty-sixth annual convention of the State Assn. of Master Plumbers of California to be held at Hollywood, Calif., with headquarters at the Hollywood-Roosevelt Hotel.

May 10-14.—A.G.A.—Meeting and exhibit of the Natural Gas Department of the American Gas Assn. to be held in Kansas City, Mo., with headquarters in the Kansas City Municipal Auditorium.

May 11-12.—CONNECTICUT. — Annual convention of the Master Plumbers Assn. of Connecticut, Inc., to be held in New Haven, Conn., with headquarters to be announced later.

May 11-12.—SOUTH CAROLINA.—Annual convention of the South Carolina Master Plumbers Assn. to be held in Columbia, S. C., with headquarters at the Jefferson Hotel.

May 14-15.—WASHINGTON. — Annual convention of the Assn. of Master Plumbers of the State of Washington to be held in Spokane, Wash., with headquarters to be announced later.

May 15.—TENNESSEE.—Annual convention of the Master Plumbers Assn. of Tennessee to be held in Knoxville, Tenn., with headquarters at the Andrew Johnson Hotel.

May 17.—ALABAMA.—Annual convention of the Alabama Master Plumbers Assn. to be held in Florence, Ala., with headquarters at the Elks' Home.

May 17-19.—H. P. A. C.—Forty-eighth annual convention of Heating, Piping and Air Conditioning Contractors National Assn. to be held in Minneapolis, Minn., with headquarters at the Hotel Nicollet.

May 21-22.—E. S. A.—Spring meeting of the Eastern Supply Assn. to be held in Atlantic City, N. J., with headquarters at the Marlborough-Blenheim Hotel.

May 24-27.—N. A. M. P.—Fifty-fifth annual convention of the National Assn. of Master Plumbers in Atlantic City, N. J., with headquarters at the Hotels Ambassador and Ritz-Carleton.

May 25-27.—SHORT COURSE.—Fourth Short Course in Coal Utilization to be held at the University of Illinois, Urbana.

June 7-11.—STOKERS.—Coal Stoker Show to be held in Chicago.

June 14-15. — PENNSYLVANIA. — Annual convention of the Pennsylvania State Assn. of Master Plumbers to be held in Pittsburgh, Pa., with headquarters at Hotel William Penn.

June 24-26.—A. S. H. V. E.—Summer meeting of the American Society of Heating and Ventilating Engineers to be held in Swampscott, Mass.

July 25-27. — DELAWARE. — Annual convention of the Master Plumbers Assn. of Delaware, Inc., to be held in Rehoboth, Del., with headquarters at the Henlopen Hotel.

September 7-10.—A.S.S.E.—Thirty-second annual convention of the American Society of Sanitary Engineering to be held in Washington, D. C., with headquarters to be announced later.

October 12-13. — (tentative.) — PORCELAIN.—Annual meeting of the Porcelain Enamel Institute to be held in Chicago.

Women

Conducted by . . . Dorothy Edwards

Message from Secretary

• *Mrs. Mueller asks aid in preparing for national convention—Complete lists of names and addresses of members needed in order to make out cards to be used at convention*

Mrs. Jos. J. Mueller, corresponding secretary of the national auxiliary, sends the following message to all auxiliaries: "As the national convention is less than two months from now I hope every auxiliary will try to do its part to help us get things in proper shape as soon as possible. By referring to our last bulletin you will notice full directions in regard to sending in the per capita tax and also complete membership list and addresses. Several checks have been received which were either for the wrong amount or else made out incorrectly as to name. I still receive checks direct from some of the locals who should have sent their check to their state secretary, who in turn collects from all her locals and forwards a final check to me. Locals who have no state division remit direct to me.

Membership Cards

"Some lists had to be returned for the addresses. If I do not receive the addresses I cannot make out the membership cards which are being sent out this year with the receipt. These cards will have to be presented at the national convention in order to receive the auxiliary badges. If we have no record of the members they will have to be satisfied with the guest badges, but there will be quite a difference in these. We want our members to wear the badges they are entitled to and therefore hope the secretaries of the various auxiliaries will see to it that the members' names are sent in. This is also necessary in order to have a complete roster of names on file at the convention.

"Another bulletin will be issued the latter part of April giving final instructions and also convention news. I hope everyone will try to get their dues in promptly. Time is getting short and the convention being a month earlier means just that much more work for us. Won't you please try and help along as much as possible? Thank you."

13th Anniversary

The thirteenth anniversary of the Women's Auxiliary to the Master Plumbers' Assn. of the Oranges, N. J., was celebrated on March 11 at the association rooms. The master plumbers were guests of the auxiliary. About 60 persons were present, including Mrs. Louis Komoski and Mrs. Robert MacDonald, president and secretary respectively of the state auxiliary, and Natl. Pres. Geo. H. Werner, with Mrs. Werner. Cards, bingo, and other games were played, after which refreshments were served. Prior to the party a business meeting was held, with Pres. Mrs. Frederick Hoffmann in the chair.

Plans have been made for a luncheon to be held April 19.

Wis. Card Party

Approximately 220 ladies attended the apron card party held by the Women's Auxiliary of the Wisconsin Master Plumbers Assn. at the Cudworth Memorial Hall on March 16. Mrs. David Stern, state president, was general chairman, and was assisted by Mrs. Walter Dusold of Milwaukee and Mrs. James Murphy of Racine. Members of the Milwaukee auxiliary acted as hostesses. A cake sale was held in connection with this affair. The party was a huge success and the proceeds will be used to defray the expenses of the state convention of the auxiliary.

Honor New Officers

Mrs. Edward Frank and Mrs. Geo. Doench were the guests of honor at a sumptuous dinner given at the Alms Hotel in Cincinnati on Thursday evening, February 25. Miss Alma Niesen, chairman of arrangements, presented the newly elected state officers with gifts. Flowers were also given to each of the women and a spray for the lapel to each man present.

Birthday Luncheon

Members of the Detroit women's auxiliary, in addition to holding their business meeting in March, assisted President Mrs. Lola Brabyn in arranging a surprise birthday party for Mrs. Nellie Hughes. A delightful luncheon was served in the dining room of the Federation Club House. The table was beautifully decorated and a birthday cake, made by Mrs. Brabyn, was served with ice cream. Mrs. Margaret Mesnard presented Mrs. Hughes with a gift from the group.

The occasion was in the nature of a double celebration, as March is the month in which the Detroit auxiliary was organized.

Racine Entertains

The Racine, Wis., women's auxiliary was honored in having as guests for the March meeting Mrs. F. C. Kuetemeyer, national president; Mrs. Jos. J. Mueller, national corresponding secretary; Mrs. Rose Friend, national chaplain; Mrs. Otto Waskow, national director; Mrs. David Stern, president of the Wisconsin auxiliary; and Mrs. Geo. Stoehr, president of the Milwaukee unit. The meeting took place at the home of Mrs. H. Griswold, with Mrs. John Dickert acting as hostess, assisted by Mrs. John Feiner, Mrs. Louis Schoenleben, Mrs. Nels Holgard, Mrs. James Murphy and Mrs. L. C. Pugh.

After the business was transacted, a delightful luncheon was served. The color scheme was green and white.

N. J. Board

The next meeting of the State Board of the New Jersey women's auxiliary will be held on April 14, at the Plaza Tea Garden, Jersey City, N. J., at 3:30 P. M. Business meeting will be followed by dinner at 6:30, after which cards will be played.

Trenton Election

Mrs. John Conard and Mrs. William Lee were reelected president and secretary respectively of the Trenton women's auxiliary at the February 3 meeting, held at the home of Mrs. John C. B. Wouters, Montclair, N. J. Mrs. Donald Stewart was chosen for vice president and Mrs. Charles MacQueen for treasurer. Mrs. Fred Nitz will continue in office as sergeant-at-arms, and Mrs. Frank Dunn and Mrs. Emil Pfleider as trustees. Mrs. Frank Strack was elected as the third member of the Board of Trustees.

Wash. Contributions

One hundred dollars for the relief of flood sufferers was sent on January 27 to the American Red Cross by the Women's Auxiliary of the Master Plumbers' Assn. of the District of Columbia.

Flood Relief

Word has been received from Mrs. Edw. Frank, Ohio state president, that two comforters made by the members of the Mansfield auxiliary had been given to two of the Cincinnati flood sufferers, who had lost their household furnishings. The families who received these were very grateful and expressed their thanks for the generosity of the Mansfield organization.

Kansas Election

New officers of the Kansas women's auxiliary were elected at the annual convention, held March 15 and 16 in Hutchinson, Kan., as follows: president, Mrs. Bert Ebersole, Hutchinson; vice president, Mrs. K. W. Talbott, Pratt; secretary, Mrs. Guy E. Holt, Hutchinson; and treasurer, Mrs. Carl McGregor, Winfield.

Mrs. E. D. Hornbrook of Kansas City, founder of the women's auxiliary and widow of one of the founders of the National Master Plumbers Assn., was a guest of honor at the convention. Called upon to speak, Mrs. Hornbrook recalled vividly the early days of the auxiliary. It was begun, she said, in 1915 with 15 wives of master plumbers as charter members, but was not definitely founded until 1919.

Minneapolis

Special interest is being taken by the Minneapolis women's auxiliary in a bill now before the state legislature relative to the betterment of the plumbing trade. Mrs. H. C. Harvey, Mrs. Frank Lamson and Mrs. Royal Berg attended legislative sessions on March 11. They are also attending a parliamentary and public speaking class each week.

At the regular meeting of the auxiliary March 16, Mrs. Berg reported on the press conference sponsored by the Minneapolis Tribune, at which she and Mrs. Otto T. Nelson were delegates.

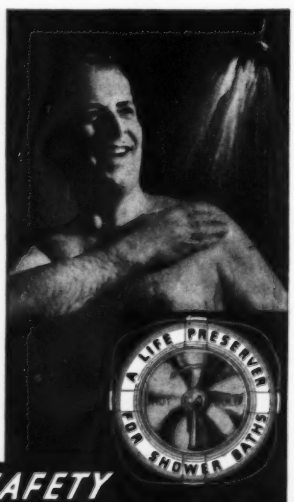
Charter members of both the Minneapolis auxiliary and the Master Plumbers Assn. were honored guests at a supper given by the auxiliary March 18. Following the supper saxophone and banjo solos were enjoyed and a skit called "Hats" was put on by some of the members of the committee. Mrs. James Brown, Mrs. Victor Beaudry, Mrs. Martin Jensen, Mrs. B. D. Miars and Mrs. Eric Pehrson formed the ensemble, with Mrs. A. E. Harroun singing the melody. Mrs. Harroun also sang several solos. After the program Mrs. Otto T. Nelson welcomed the group and presented flowers to the charter members. Cards were then played. Mrs. A. G. Nelson was chairman.

Want to eliminate the danger of scalding in your shower baths and stop unexpected changes in the water temperature?

● No more slipping in a soapy tub or on a wet tile floor while trying to dodge a "shot" of icy cold or scalding water—When you use a shower bath regulated by a Powers safety shower mixer the temperature remains right where you want it. You can really enjoy the thrill of a comfortable shower in absolute safety.

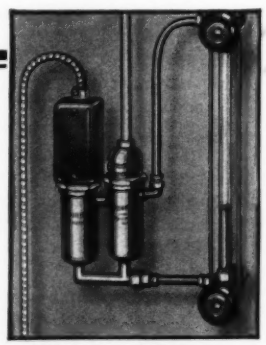
Why they're more economical—There's no loss of time or waste of hot or cold water while waiting for a shower at the right temperature — Powers mixers cost more —They're worth more.

Write for circular describing this remarkable shower mixer. The Powers Regulator Company, 2716 Greenview Avenue, Chicago. Offices in 45 Cities — see your phone directory.



POWERS *SAFETY* SHOWER MIXERS

EXTRA SPRING PROFITS



Recommend a "Micro" Water Boy when owners ask you to clean and inspect their boilers this spring. This is a profitable item, easy to install, and affords adequate protection against low water on every automatically-fired steam heating system, while also safeguarding against the danger of excessive pressure.

"MICRO" WATER BOY BOILER PROTECTOR

New - Different - Popular Priced. Makes automatic firing positively automatic. Made entirely of non-ferrous metals. Furnished in four styles complete with quick hook-up fittings. Switch has Underwriters' approval.

SPECIAL INTRODUCTORY OFFER

Once you start selling boiler protectors, one sale leads to another.

To help you get started and make extra spring profits, let us send you a "Micro" Water Boy at our special introductory price. You be the judge of its efficiency and big sales opportunities. Convince yourself that here is an indispensable accessory for every automatically-fired boiler up to 5,000 ft.

ACT NOW—WRITE TODAY!

Simply send us your order and the name of your preferred jobber and we will ship your "Micro" Water Boy immediately. This is but one of many Maid-O'-Mist specialties that dealers everywhere are pushing profitably day after day. Get your share NOW—special offer for limited period only. Write today for Circular 4-A.

MAID-O'-MIST, Inc.

180 N. WACKER DRIVE CHICAGO, ILL.

Recognition

Over Radio . . . In Newspapers . . . Thru Magazines . . .

Favorable publicity is the life blood of industry and one of the prime reasons why our industry is a healthy, living one is the constant, directed flow of publicity which keeps products and services of our industry before the attention of the buying public. The publicity which our industry receives is not localized to any one section of the country. It is nation-wide in scope. It does not emanate from just one source, but rather is to be found in newspapers, magazines and through the channels of radio. The following columns of this section give an indication of the amount, variety and kind of publicity which men, materials and methods of our industry receive daily.

Bathroom Planning

- ***Radio talk by Walter Eynon tied in the importance of good plumbing with annual convention of Ohio contractor-dealers***

The Plumbing and Heating Industries Bureau has forwarded a radio address which Walter Eynon, president of the Ohio Master Plumbers Assn., gave over Station WKBN, Youngstown, Ohio, during the annual convention of his association. As indicated by Mr. Eynon's opening remarks, the talk, coming as it did at the time of the convention, was a timely reminder of the importance of good plumbing. Portions of the talk follow:

"The convention of the Ohio Master Plumbers Assn. this week is a timely reminder of the importance of good plumbing, and plenty of it, in the new house you may be building or planning to build this year. No room is more a product or typical of the modern age than the bathroom. It is a truly American room. We Americans have pioneered in the architectural glorification of the bathroom just as we have in so many other things that contribute to a higher standard of living.

"Actually, of course, it isn't necessary to build a new house to have a thoroughly up-to-the-minute bathroom. The oldest and most antediluvian bathroom can be rejuvenated under the direction of a skillful master plumber. Plumbing contractors are experts nowadays in bathroom facelifting.

"There is much that could be said about bathrooms and bathroom planning. Quality in the visible fixtures as well as the hidden piping, valves and fittings is most important, if the bathroom is to give trouble-free service. Cheap plumbing is not only a nuisance, an inconvenience and an expense, but it may be a positive menace to health. Plumbing installed under the supervision of a licensed master plumber is a protection to health as well as to property values."

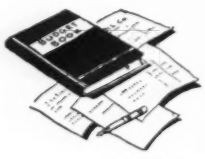
Research Tested Plumbing

- ***Radio talk given in connection with convention of Iowa association publicizes N.A.M.P. research program and dramatizes importance of proper plumbing***

Another indication of how a sound industry can sell itself was to be found in a radio address given in connection with the annual convention of the Iowa Master Plumbers Assn. This address did more than stress the advantages of good plumbing, it dramatized the plumbing research program of the National Assn. of Master Plumbers and, by inference, showed how plumbing from proper sources is constantly protected and perfected. A portion of this address is reprinted below. The first portion of the address was more in the nature of a sales message on modern plumbing convenience, while the conclusion was concerned with research.

"Members of the plumbing industry in Iowa take pride in the fact that the College of Engineering of the State University of Iowa was selected by the National Assn. of Master Plumbers to undertake an extensive program of research in the hydraulics and pneumatics of the plumbing system. The significance of the research program in plumbing at the Hydraulic Institute is that it correlates the efforts of experts in various fields allied and related to plumbing. The effect of the research work now under way at the State University of Iowa will be to direct the attention of the plumbing industry and public health officials throughout the nation to Iowa as a center of plumbing research. The result will be an improvement in plumbing standards in this as well as other states in which the findings here will be applied."

Look FOR THE SAME THINGS CUSTOMERS LOOK FOR IN A BURNER*



Look **FOR LOW FUEL COSTS**

Customers want economy — and the specially designed housing and air diffusers of the Herco achieve an instantaneous mixture of oil and air which results in wasteless combustion.

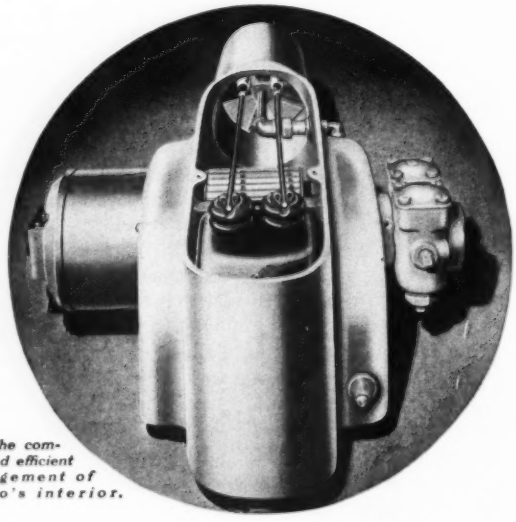
Look **FOR QUIETNESS**

Sell customers noisy burners and you're flooded with service calls. Herco's pump and fan are quiet; the case is sealed and sound proof.

Look **FOR NON-INTERFERENCE**

More service calls if burners interrupt radio programs with static. The Herco is radio proof. Every wire is enclosed within the body of the burner and high and low voltage wires are separated.

**Look into HERCO*



Note the compact and efficient arrangement of Herco's interior.

HERCO OIL BURNER CORP.
LANCASTER, PENNA.

Send full information about the Herco Residential Oil Burner.

Name.....

Address.....

Rentability and Radiators

• *Modernization issue of building paper stresses importance of modern radiators*

Norman J. Radder, secretary, Plumbing and Heating Industries Bureau, was the author of an article, "Modern Radiators Save Fuel and Increase Rentability," which appeared in the modernization issue of *Buildings and Building Management.*

"To insure the profitable operation of an apartment house, the management must provide those features which will attract tenants and insure their comfort and satisfaction. Heating always has been and doubtless always will be one of the most important factors in the renewal of leases. Successful apartment house management today, however, calls for more than the mere provision of adequate heat. It is concerned with how and where the required heat is supplied. The tenant today wants more than a radiator that does a good job of heating. The tenant expects maximum radiator performance plus good appearance and a saving of floor space."

Who Help Themselves

• *Continuing the series of prepared news items, this month presents another item ready for contractor-dealers*

Co-operative effort is the best way to achieve a purpose, whether that purpose be sports, politics or business. It especially is true in the case of publicity for an industry. Other items in this section have shown what is being done to get the products and services of this industry favorably received by the buying public.

Immediately below is a prepared news item ready for contractor-dealers to copy on their business letterheads and forward to their local newspapers, thus increasing the amount of favorable publicity which our industry receives and publicizing their own business as well.

The recent flood has given an indication of the importance of modern, sanitary plumbing in everyday life, according to ————, plumbing contractor-dealer, located at ————. After the flood waters had subsided an authority on the subject declared that because of the work of doctors, state and city sanitary engineers and plumbing contractor-dealers, a serious epidemic was prevented from starting. One of the first steps taken in rehabilitating flooded cities was to check the plumbing facilities in public and private buildings so that people once more could work and live untroubled by disease which modern plumbing sanitation holds in check. Mr. ———— went on to say that potential health hazards equally dangerous as those which existed in the flood area are to be found in hidden cross connections of plumbing piping.

Questions

Solar Water Heating . . . . . Public Comfort Station

Solar Water Heating

- *Here the reader wants to know the most satisfactory manner in which to install a solar water heating system*

To the Editor:

Enclosed are three sketches in connection with the installation of a solar water heater. Fig. 1 shows a vertical hot water tank, although all of the room that I have above the heater is about 2 ft. and the only exposed location that is available for the heater is in the northwest wing of the building. Fig. 2 shows a horizontal tank located about 2 ft. above the solar heater and Fig. 3 is a similar horizontal tank located about 5 ft. below the solar heater. Can you tell me which of these arrangements would be the best one to use? At what angle should the solar heater be placed? What insulation should be used for the tank? I will appreciate any help you may be able to give as I am unfamiliar with this method of supplying domestic hot water.

Fla. H. G. O.

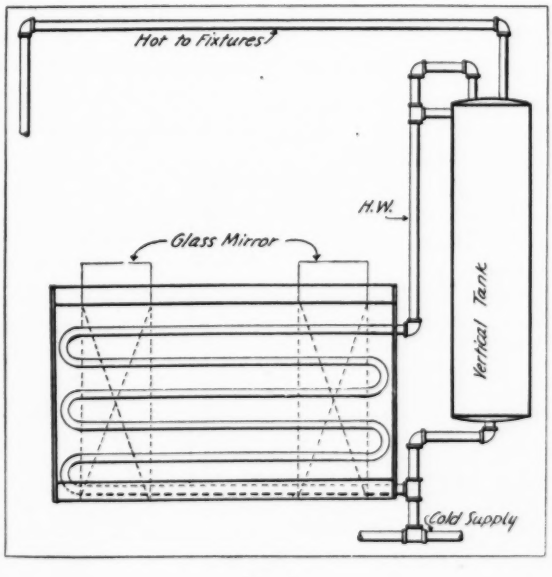


Fig. 1

To the Reader:

The best results should be obtained with a solar heater when the bottom is toward the true south and the top is toward the true north; the least amount of shadow from the box is thrown on the coil if the top, or north end, of the heater is raised to a point where the bottom makes an angle of about 60 degrees with the horizontal. The heaters usually are made up of pipe or tubing and are attached to a sheet of metal which has holes cut in to allow recessing the fittings until the pipe lies against the sheet to which it is attached along its entire length. The coil should be of the return bend type with the pipes running east and west so that the top pipe is at the north end (high end) of the box, and from this pipe the heated water is delivered. The box, of course, is covered with glass and should be as shallow as permitted and still enclose the coil. See Fig. 4.

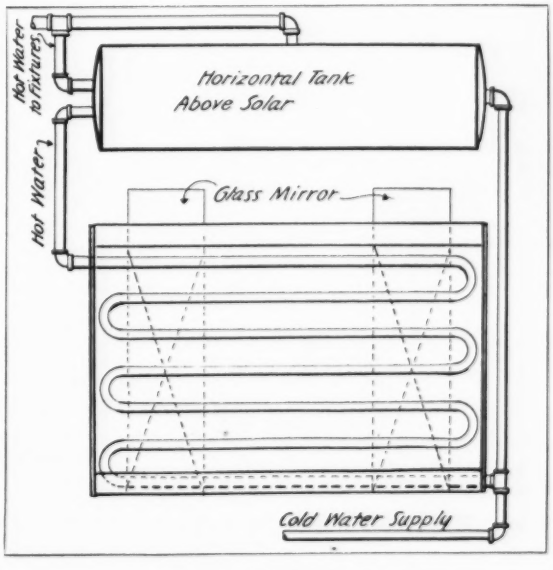


Fig. 2

SCOTT S/N NEWCOMB

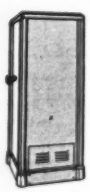
Complete Line

AUTOMATIC HEATING and AIR CONDITIONING Equipment

Oil Burners (8 sizes)

Boilers, Cast Iron, Steel (Oil, Gas, Stoker)

Air Conditioners (Oil, Gas, Stoker)



Water Heaters (Oil, Gas, Stoker)

ONE LINE Covers the Field

Here's your source of supply—for everything! In one line—Scott-Newcomb—you can now obtain a wide range of models covering every major unit used in home-heating, air conditioning and water softening. That fact alone makes for profitable sales. Other reasons why S/N dealers are making money are—

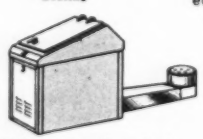
1. There's a S/N product for every month in the year.

2. "S/N" means highest quality—at competitive prices.

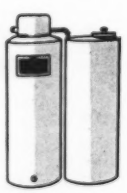
3. The industry recognizes S/N as pioneers and authorities in the field.

4. A complete line of easy-to-sell accessories "opens up leads" for major equipment.

Room Coolers and Central Cooling



Stokers (for soft or hard coal) (5 sizes)



Water Softeners (All sizes)

Basement Sprinkler Systems (A popular novelty that gets you into prospects' homes.)

Your territory may be open for this popular line. Write today for literature and interesting dealer proposition.

SCOTT-NEWCOMB, INC.

1923 Pine Street, St. Louis, Missouri

We are not clear as to what you mean on your sketches by the glass mirrors unless you intend to reflect the sun onto the coil; this is not done ordinarily and, if done, the mirrors would have to be at least as large as the box.

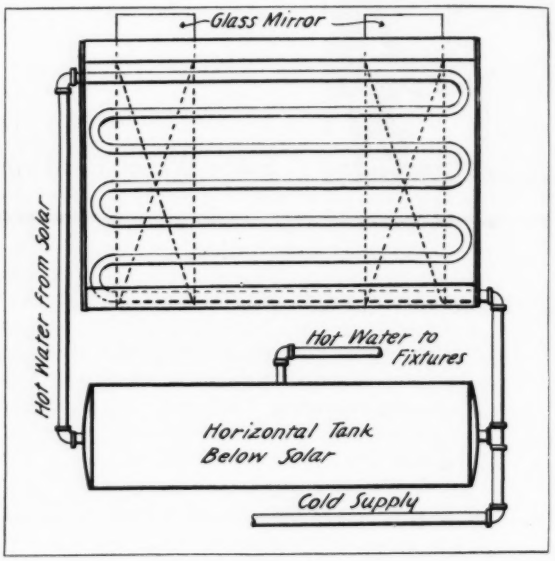


Fig. 3

We are of the opinion that the circulation head is so low in Fig. 1 that the results achieved may be poor as part of the efficiency of the coil in the box is due to low temperature water being in the coil and to this water

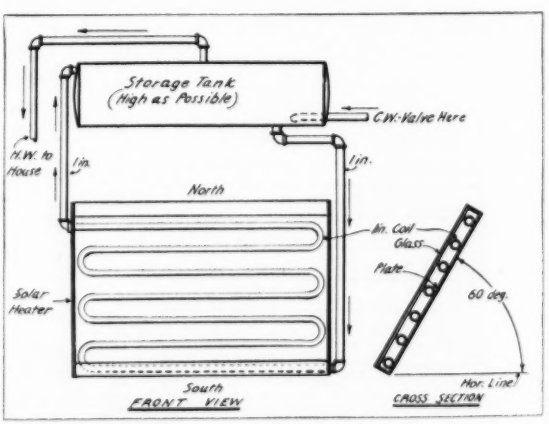


Fig. 4

passing out rapidly as it is heated. As soon as the coil water becomes reasonably warmed, the efficiency of the coil reduces in proportion.

In our opinion Fig. 2 will work better than Fig. 1 as the circulation will be better but the house supply should be taken from the top of the tank, and from the top only, in order to blow out air which otherwise will accumulate at the high point in the tank. Fig. 3 will not work at all as the hot water will not go down to the tank by gravity nor the cold water go up to the heater. What will hap-

pen in this case is that the water in the coil will be heated but it will remain in the coil. If you could place the tank on the peak of the roof—provided that there is such a peak—that would be the best place for it with the heater located on the porch roof or even on the ground.

The tank should be insulated with any good insulation material that will help retain the heat. An 80 gallon tank should be satisfactory for about 3 to 4 persons and should have a coil in the heater of about 66 sq. ft. of outside pipe area.

Public Comfort Station

- *The question of drainage and ventilation of a Public Comfort Station located beneath the sidewalk level is answered for this reader reader*

To the Editor:

The City Council has ordered the erection of a Public Comfort Station directly opposite a civic building and located under the sidewalk. At this point the fixture will be at least 5 feet below the sewer level. As this is a problem which never has been met with in this district I would appreciate any information you may have in regard to the best method of drainage and ventilation. The number of fixtures installed consists of:

6 Water Closets
4 Urinals
3 Lavatories
1 Drinking Fountain
1 Slop Sink

The approximate number of persons using this comfort station per day is estimated at about 100 and the station will be completely buried in the ground with the entrance under the steps to the City Hall.

New Brunswick B. W.

To the Reader:

In order to drain plumbing fixtures which are 5 feet below the level of the sewer it will be necessary to use a sewage ejector of some type in which the fixture discharge will collect and from which the sewage automatically will be discharged to the sewer.

In regard to the ventilation the air in the room should be changed between 10 and 20 times per hour; for the light usage you say is expected it probably will be enough in your case to use 10 air changes. This means that the number of cubic feet of space in room should be multiplied by 10 and then divided by 60 minutes to find the cubic feet per minute which should be exhausted to maintain proper conditions.

The exhaust would be best disposed of by carrying a flue up through the building and discharging this above the roof. Another method is to use a kiosk of about 18 in. diameter and either round, hexagon or octagon shape with the soil pipe vent run up through the center and the exhaust air carried up in the remaining space as

"WELL-FROM ONE WHOLESALER TO ANOTHER

We find that—

KAINER CIRCULATING SYSTEMS

Are Steadily Preferred By
HEATING CONTRACTORS
for their

Hot Water Jobs"

THE REASONS ARE SIMPLE!

They're Mighty Dependable

1. Measured by any standard, Kainer Circulating Systems conform to the most exacting demand for automatic hot water heating equipment.

Kainer Circulators . . . reliable, quiet, efficient; Kainer Governors . . . sturdy, dependable; Kainer Circulation Controls and Accessories . . . all outstanding equipment, all pulling together as one coordinate system, each unit doing the job it is supposed to do . . . JUST AS YOU PLANNED.

Profits? Sure!—Cooperation too!

2. That is the answer to the success so many contractors have found in installing Kainer Circulating Systems . . . knowing beforehand that each complete system—each unit—measures up to a standard. When you leave a job knowing THAT, it means a good clean profit and another satisfied customer.

Sales Policy

3. AND REMEMBER THIS . . . Kainer Circulating Systems are backed by a sales policy that gives you COMPLETE trade protection . . . a line of hot water heating equipment that reaches the consumer ONLY through the plumbing and heating contractor.

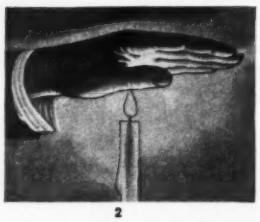
For your protection, and for your success in selling automatic heat, INSIST on Kainer. Your local wholesaler will gladly supply your needs.

Write for Bulletin No. 66 Today!

KAINER & COMPANY
761 MATHER ST. CHICAGO ILL.

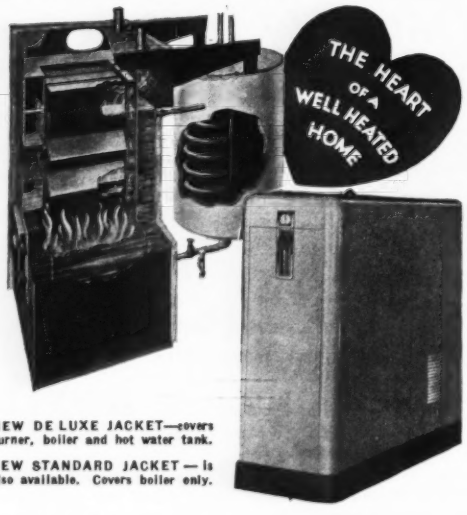
Make This Test Yourself

1



2

IT CONVINCINGLY ILLUSTRATES
the basic principle of the
KOVEN WATERFILM BOILER



NEW DE LUXE JACKET—covers burner, boiler and hot water tank.

NEW STANDARD JACKET — is also available. Covers boiler only.

You will find that the heat is most intense when you hold your hand above and at right angles to the flame as in figure 2. This same principle is embodied in the "KOVEN" WATERFILM BOILER. The generators or boosters are placed above the combustion and at right angles to the heat travel. Thus they absorb the maximum amount of heat and make the WATERFILM BOILER one of the most economical to operate, saving in many cases as much as 50% in fuel bills.

When you install "KOVEN" WATERFILM BOILERS you give your customers a boiler constructed of fire box steel that provides quick heat, supplies abundant hot water the year 'round and operates at maximum efficiency with greatest economy.

Write at once for full particulars and catalogue.

WATERFILM BOILERS, INC.
154 Ogden Ave. :: Jersey City, N. J.

THE FLASH BOILER STABILIZED

A KOVEN PRODUCT

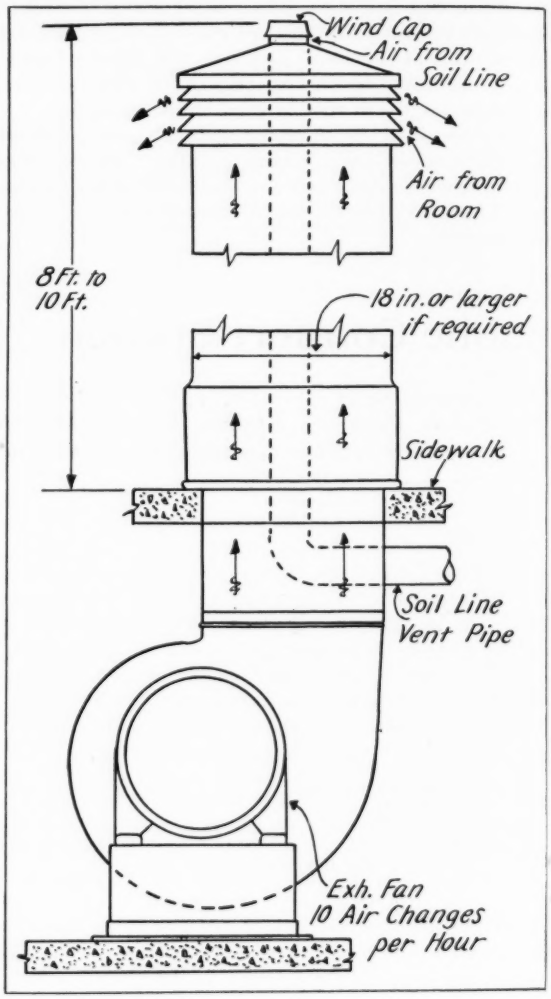

Wind Cap
Air from Soil Line
Air from Room
8 Ft. to 10 Ft.
18 in. or larger if required
Sidewalk
Soil Line Vent Pipe
Exh. Fan 10 Air Changes per Hour

Fig. 5

shown in Fig. 5. The free area for the passage of the exhaust air up through this kiosk should be such as to give an air velocity of about 800 to 1000 f.p.m. We assume a small exaust fan will be used in the station to discharge the air up this flue.

Questions For READERS

Here is the answer to the question presented in the February issue. As stated, the question follows:

This problem is hardly original, but it does present an interesting problem in mathematics. The question is: Determine the shortest distance between the two points "A" and "B" from the dimensions shown in the sketch of the room. This distance may be across three walls,

across two walls and the ceiling, or across two walls and the floor; it's up to you to determine which. Or as another variation of the same problem, assume that it would

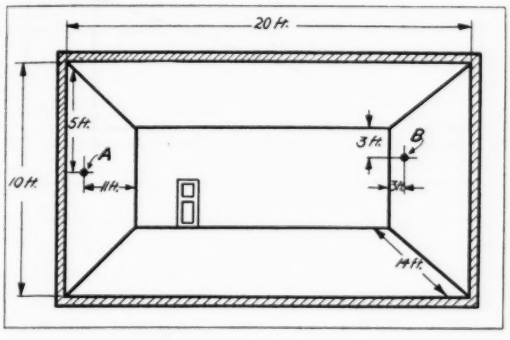


Fig. 6

be necessary to run a length of pipe straight through the room from point "A" to "B." What, then, would be the length of this run?

This is to bear on the distance question asked in the February issue. I interpret the question to mean the shortest distance that satisfies the question regardless of construction difficulties.

The truly shortest distance measured constantly in planes bounding the room is most easily determined as indicated below.

By inspection it may be seen that A is as close to the front wall as B is to the rear wall. Hence if either of them are to be used one is as good as the other. Inspection also indicates that the average distance from the floor to the points is greater than that from the ceiling. It

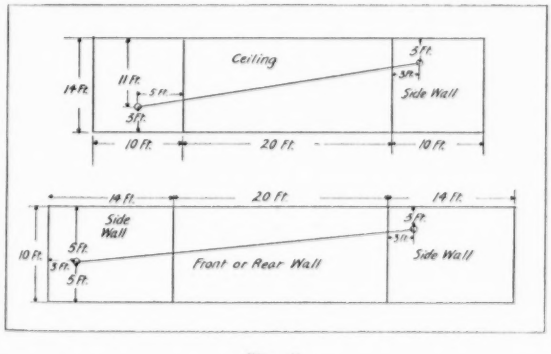


Fig. 7

now remains to be seen whether the ceiling is better than the rear or front walls. If this cannot be done by inspection, drawings such as follow are used to furnish a solution. See Fig. 7.

It is a fact that this shortest distance will appear as a straight line if the three views of the three chosen sections of path are placed next to each other so that all sections are in the same plane.

Inspection now reveals the ceiling to be the best route. If the drawings are made to scale the true distances may be measured by that scale. They may also be found by

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...CASH IN, MR. PLUMBER

• Home-owners and health authorities throughout the nation are reading Phillips Valve advertising in the *Saturday Evening Post*. Over six million ads such as the above will appear during April alone—over 40 million during the year!

This means new profitable business for *you*, Mr. Plumber: (1) A profit on sale of valves; (2) A profit on the installation jobs; (3) Provide an ideal door-opener to solicit new business in your neighborhood.

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computation using the Pythagorean relation of geometry and the sketches. The length of the line in the

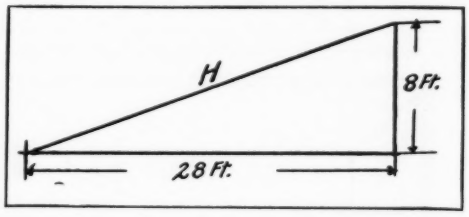


Fig. 8

upper figure will be seen to be the longest side or hypotenuse of this triangle.

$$H = \sqrt{(28)^2 + (8)^2}$$

$$= \sqrt{784 + 64} = 29.1204$$

$$= 29 \text{ ft. } 1\tfrac{1}{32} \text{ in. plus}$$

Suppose now that, as suggested, the distance is to be taken in space instead. The distance is the diagonal

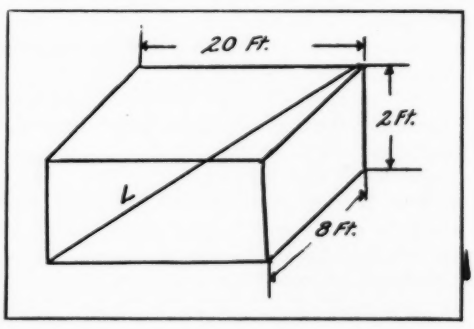


Fig. 9

of the smallest imaginary box which will contain the straight line representing the distance. The length may be computed by using this box. Letting L represent the length from A to B, the distance is as follows:

$$L = \sqrt{(20)^2 + (8)^2 + (2)^2} =$$

$$L = 21.6333 =$$

$$L = 21 \text{ ft. } 7\tfrac{19}{32} \text{ in. plus}$$

Graphical solutions are possible for those familiar with the drawing board. The procedure is shortest if triangles are chosen from the figure and constructed to produce the required distance on the paper to scale in its true relative size.

How Would You Answer This Question?

A 60-room apartment house is divided into one, two and three-room apartments: what should be the approximate size of the hot water tank and how much heating capacity should be provided for the tank?

Answers based upon your experience in installing such work will be paid for and published in the June issue.

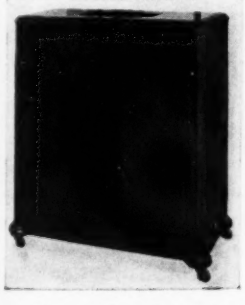
PRODUCTS *for* DEALERS

New Portable Room Cooler

Two models of a new portable room cooler have been announced recently, and one model is shown below at the left.

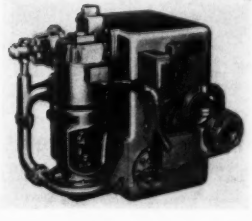
The models have capacities of ¾ and 1½ ton of refrigeration. They have been designed so that no drain connections are necessary, and are listed as being able to clean, cool, dehumidify filter and deodorize the air in the room. Connection to supply outdoor air is made through an adjustable window damper which combines the inlet and outlet air ducts. The unit is designed to operate with a minimum of noise, and requires only an electrical current to operate. The ¾-ton model has a Btu. capacity of 10,000, and the 1½ ton model has a Btu. capacity of 20,000. The unit is enclosed in a walnut finished insulated cabinet.

Corozone Air Conditioning Corporation, 1422 Euclid Ave., Cleveland, Ohio, announces this room cooler.



Above, New Portable Room Cooler

Below, New Vertical Vacuum Pump



New Vertical Vacuum Pump

A new vertical vacuum pump which is available in sizes with capacities from 2,500 to 15,000 sq. ft. of radiation has been announced recently. It is shown in the accompanying illustration.

Some of the features listed for the pump are that it is bronze fitted throughout; it has a stainless steel shaft, with the impeller blade locked between the shoulder and the nut; a shielded ball bearing carries the pump shaft independent of the motor bearings; renewable bronze wearing rings, heavy flexible couplings, split bronze packing gland, and oilless renewable bearing are incorporated in the unit. The controls listed as being included in the unit are: a pilot valve; a boiler feed valve; a float switch; float and vacuum control for overload protection; and magnetic starters.

Hoffmann Specialty Company, Inc., Waterbury National Bank Building, Waterbury, Conn., announces this new vertical vacuum pump.

THIS NEW
Combustioneer
BLAZES THE TRAIL TO A GREAT NEW MARKET

★ Here's the latest addition to the Combustioneer family—Model 2. With it you can sell the great mass market of prospective stoker buyers in the low income class. It's the answer to your prayer!

It rounds out a great profit line that will keep you "out of the red" during off-season months . . . help you eliminate turnover in your selling force and hold your good salesmen . . . give you a larger net margin per unit sale than any other product you have ever sold.

All automatic coal burners made in Combustioneer's big, modern plant are sold as Combustioneers. Model 2 is a genuine Combustioneer. It has the same basic design features as other models — each and every one a visible and demonstrable sales advantage.

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FOR HOMES, APARTMENTS AND FACTORIES
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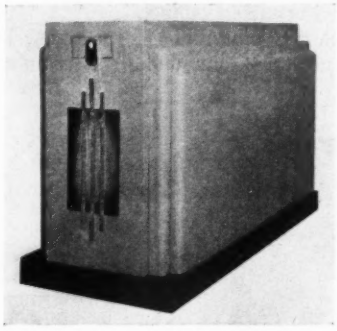
Oil Burning Boiler

A new oil burning boiler which is of the Scotch Marine type and which is designed for residential heating has been announced recently, and is illustrated here.

Sizes are available which have ratings of from 612 to 2,680 sq. ft. of steam radiation. Some of the features listed for this boiler are: the firing chamber is entirely surrounded by water; all of the instruments are attached directly to the boiler, no piping being necessary; the louvres for supplying air to the oil burner are placed above the smokeout, thus giving preheated air to the burner; the tubes may be removed or cleaned from either end of the unit; either a tank or tankless type water heater with a submerged coil supplies hot water for summer or winter use; the casing of the boiler, which is finished in light green, is insulated, and is designed to fit over the boiler and all the controls with the exception of the pop-up safety valve.

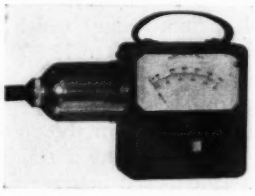
The Titusville Iron Works Company, Titusville, Pa., announces this new oil burning boiler.



New Oil Burning Boiler

New Velocity Meter Attachment

The accompanying illustration shows a new attachment for a velocity meter which is designed to permit the use of the velocity meter in dust laden atmospheres.



New Velocity Meter Attachment

It is indicated that the instrument can be scaled for direct reading with the filter attached, and a conversion chart is provided when readings are desired without the filter attached. The filter attachment may be used with or without the tube, tube fitting or jets, depending upon conditions accompanying taking the reading.

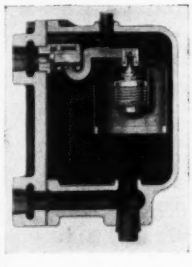
Illinois Testing Laboratories, 420 N. La Salle St., Chicago, Ill., announces this new filter attachment.

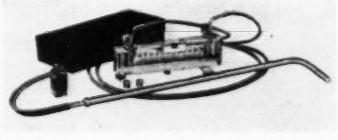
New Inverted Bucket Trap

A new bucket trap, which is shown in the accompanying illustration, has been introduced on the market just recently.

The trap is furnished, it is indicated, with an integral air by-pass carried inside the bucket and consisting of a thermostatic trap element of the balanced pressure type. It is indicated further that this air by-pass does not require setting, but that it operates satisfactorily regardless of the fluctuation of pressure in the trap. The bodies are heavily constructed, and are listed as being of ample size. They are available in sizes from ½ in. to 2 in. with bodies of cast iron, for operating pressures of 125 lb., of semi-steel for pressures up to 250 lb., and of cast steel for up to 500 lb. steam pressure. Valve heads and seats are of stainless steel in all of the models.

Sarco Co., Inc., 183 Madison Ave., New York, N. Y., announces this new line of inverted bucket traps.





Above are the Air Meter Attachments Just Announced

At the left is the New Inverted Bucket Trap

New Air Meter Attachments

A new range of air meters, draft gages and air filter gages which cover velocities ranging from 400 to 8,000 feet per minute have been announced recently, and are shown on the next page.

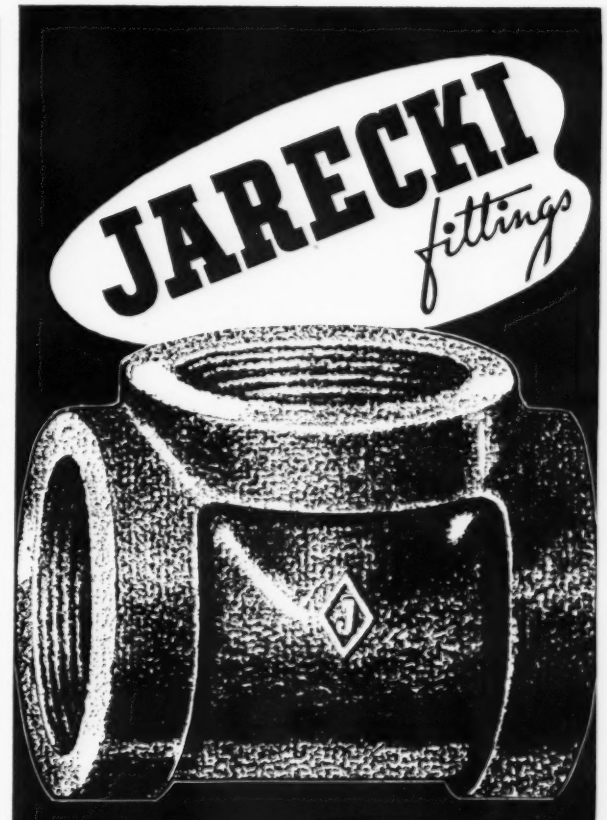
The new instruments are constructed of Bakelite, and are provided with means for leveling before taking readings. The portable instrument, together with its fittings, are contained in a portable carrying case. A feature listed for this new instrument is the chromium plated and polished graduated scale which is on the back of the instrument, which reflects the image of the liquid level, and reading the instrument consists of lining up the liquid column, the graduated scale and the reflected image of the liquid columns. A new pitot static head is also announced, which is so designed that it can be used with any make of instrument designed for similar purposes.

Julien P. Friez & Sons, Inc., 4 N. Central Ave., Baltimore, Md., announces these air meter attachments.

Oil Burning Water Heater

A new automatic oil burning water heater has been introduced on the market just recently, and is shown in the accompanying illustration.

The heater has a capacity of 40 gal., with a heating capacity of 30 g.p.h., 80 degree temperature rise. Some of the features listed for the heater are as follows: the heater is completely automatic in operation, with a thermostat, automatic draft regulator and an oil regulating



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Why not join the great array of exacting buyers everywhere who insist upon Jarecki Fittings? You get an 85-year background of dependability, value and honest manufacture.

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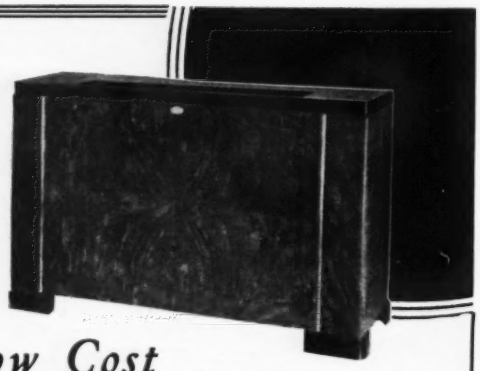

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Air Conditioning

YOU want to avoid, if you can, the complications of a duct system for air conditioning. One involving tinsmithing, the cutting of floors and walls for grilles.

YOU want a simple, easy to sell, easy to install conditioner, that slips easily into place, as an effective part of any new hot water or steam system.

YOU want one that you can use for an old radiator system.

YOU want one that will quickly and easily convert an ordinary radiator system into an air conditioning one.

YOU want one that is a better buy for you, and a better buy for your customer, than any conditioner on the market.

YOUR undoubted answer to all these "hoss" sense requirements, is the Burnham Air Conditioner. It is as easy to install as a radiator. Takes the place of one. Takes up practically no more room. Can be recessed like any radiator. Filter cleans, heats, humidifies and circulates the air. Is entirely automatic. Can be used to keep air in cooling circulation in Summer, like any electric fan.

Send for Catalog. See for yourself if all we say about our radiator air conditioning system is not so. We'll help you make sales.

Burnham Boiler Corporation
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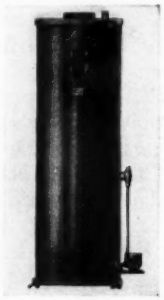
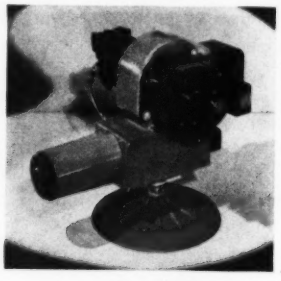
valve controlling the rate of heating the water and its temperature; the flues extend the full length of the tank; the tank is insulated; the outer jacket is of 20 gauge steel, which is finished in a dark gray lacquer; the door is of cast iron, and provides easy access to the combustion chamber. The burner is of a type which is capable of burning No. 1 distillate, range oil or kerosene.

The Hotstream Heater Co., 8007 Grand Ave., Cleveland, Ohio, announces this new water heater.



New Oil Burning Water Heater



A New Oil Burner

A New Oil Burner

A new oil burner, shown above, is designed for burner-boiler units and for conversion installations. Its small dimensions—20¼ in. overall and 17½ in. height, are features of the unit.

Models are available with capacities from 2½ to 25 g.p.h. ratings. Additional features listed are: a new scroll design blower housing provides quiet operation; a slotted collar permits the feed line to run unbroken into the burner itself; the new housing makes the operating parts more accessible. The burner is finished in Chinese red and black.

Harvey-Whipple, Inc., Springfield, Mass., announces this new oil burner.

At the left is the new Tubing Cutter

New Tubing Cutter

A new tubing cutter has been introduced on the market recently, and is shown here.

A description indicates that the frictionless roller type cutter with the knife-blade wheel makes a rapid smooth cut without denting, twisting or tearing the tubing. The appendage at the left of the device is a knife-blade reamer. This cutter is available in three sizes, to accommodate ⅛ to ⅞; ½ to 1⅜; and ⅞ to 1½ in. tubing.

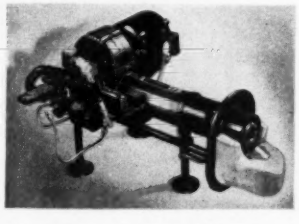
The Armstrong Mfg. Co., 303 Knowlton St., Bridgeport, Conn., is the manufacturer of this new tubing cutter.

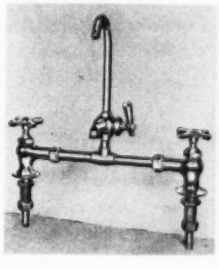
Pressure Type Gas Burner

A new pressure type gas burner for use in home heating has been introduced on the market, and is shown here.

The design of the burner is such that it is listed as producing positively controlled heat and complete combustion of the fuel. One feature of the burner is a motor-driven blower by which the pressure within the burner is built up higher than that caused by variable winds, draft and chimney conditions. Other features listed are as follows: complete gas combustion is obtained through the use of three separate tubes—one directly to the flame, one to the outside of the flame, and the other to the inside of the flame; safety features listed as standard include a low-burning gas pilot with a cut-off control, a three-step starting gas valve, an outside pilot lighter and gas pressure regulator and a low voltage thermostat.

Norge Division, Borg-Warner Corp., 670 E. Woodbridge Ave., Detroit, Mich., announces this new gas burner.





Above, Pressure Type Gas Burner
Right, New Lavatory Fixture

New Lavatory Fixture

A new combination lavatory fixture and shampoo fixture with diverter valve for use in barber shops, beauty shops, etc., has been introduced on the market. It is shown in the accompanying illustration.

The fixture is equipped with a diverter valve for controlling the flow of water to the spout or to the spray, and it is indicated that the diverter valve permits maintaining a set condition of water pressure and temperature and eliminates the necessity of shutting off the water at the control valves after each use. This fixture is available with a chromium finish.

H. B. Sherman Manufacturing Co., 22 Barney St., Battle Creek, Mich., manufactures this new lavatory fixture.

New Grease Trap

A new grease trap for use in connection with dishwashing machines and which is designed to prevent grease from being siphoned into the sewer has been introduced on the market recently. It is shown in the illustration on the next page.

A feature listed for this trap is that it can be placed on the floor along side of the dishwashing machine, thus tending to simplify installation. Grease retention is accomplished by a venting feature that is designed to pre-

IT'S *Your* RESPONSIBILITY TO SELECT THE PIPE

It's a good guess that nine out of every ten jobs are steel pipe jobs in which the selection of the pipe is left to you. Thus, it becomes your responsibility to select pipe that will give your customer full dollar value and at the same time insure profit for you. • That's why many engineers and contractors have discontinued the use of "any steel pipe." They insist on Fretz-Moon Pipe — because it is sound in every respect and because it permits them to use pipe of unusually high quality at no increase in price. • They know, too, that because of the exclusive "continuous process" of manufacture, all uncertainty and guess work is eliminated — and the finished pipe is exceedingly uniform in size, weld, ductility, cleanliness, threading and galvanizing — thus making possible economies in installation. • Ask your jobber for Fretz-Moon Pipe. If he cannot supply you, write us.

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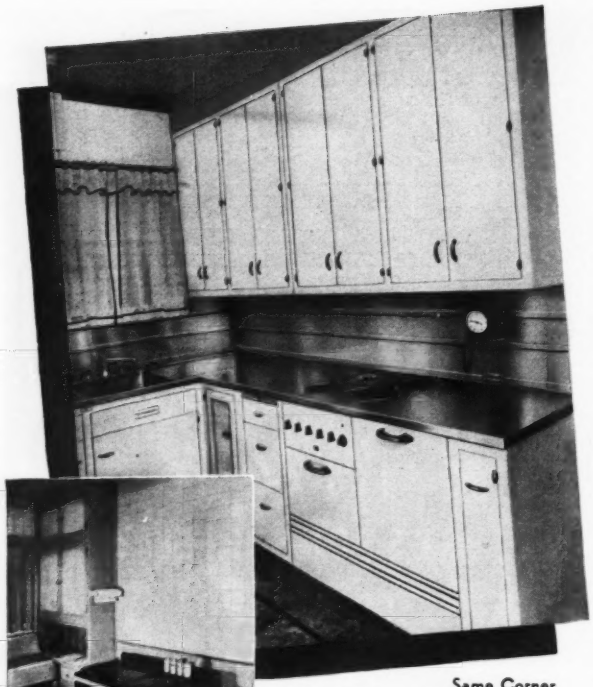

Same Corner after Modernization with ELKAY Stainless Steel Kitchen Sinks

Corner of Kitchen before Modernization

One Illustration

is Worth More than

1000 Arguments

The above "BEFORE" and "AFTER" illustrations tell a more vivid story of what the real MODERN kitchen should be than any arguments we can offer in favor of modernization. Every detail for the convenience, comfort and efficient operation of the "Workshop" of the home has been planned by ELKAY engineers.

Planned Stainless Steel Kitchens by ELKAY

are the last word in kitchen design. The STAINLESS STEEL Kitchen Sinks and Cabinet Tops are built-to-measure in one solid unit to assure the utmost in efficiency—a Lifetime of Service, Luxury and Charm.

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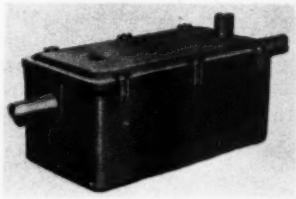
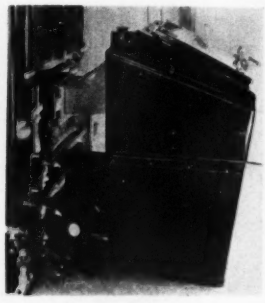
vent siphonage of grease, and at the same time to allow the escape of accumulated gases from the trap and thus prevent the grease from becoming rancid. The cover and inside parts of the trap may be removed for cleaning, and it is also indicated that when the cover is bolted down, it is sealed tight so that no grease or odors can escape into the room. The trap is designed to function efficiently with dishwashing machines with capacities up to 10,000 dishes per hour. It is finished in gray, and may be painted to match the color of the dishwashing machine, if desired. It measures 30 by 20 by 11½ in. in size, overall dimensions.

D. J. Murray Manufacturing Co., Wausau, Wis., announces this new grease trap.





Above, New Grease Trap
Right, Portable Coal Stoker

Portable Coal Stoker

A new coal stoker which is listed as being portable has been introduced on the market recently, and is shown here.

Models in the line are available for industrial or domestic application, and it is indicated that in the industrial model, the stoker may be swung away from the door of the heating unit to facilitate ash removal; and that in the domestic model, the stoker may be removed and pushed across the floor to the bin for filling. The stoker is of the overfeed type, and fires through the usual firing door. Ranges in coal feed vary up to two tons per hour, accommodating heating plants up to 150 h.p. in rating. The stoker incorporates automatic controls, and is finished in black or green with gold stripes.

Kirby Manufacturing Co., 238 S. Union, Decatur, Ill., announces this new stoker.

Five New Products

Five more of the twenty new items introduced by the American Radiator Co., 40 W. 40th St., New York, N. Y. at a meeting recently, are shown on these pages. The new enclosures for convector type radiators are adaptable to both free standing and recessed radiation. They are made with horizontal discharge grilles integral with the front panel of the enclosures, which have rounded corners and edges. The grille can be placed either 3¾ or 4¾ in. high, with the horizontal bars spaced on ½ in. centers. Recess dimensions are the enclosure length plus ½ in., enclosure height plus ¼ in., while the depth varies with the building construction.

In the line of prefabricated air ducts, complete fittings

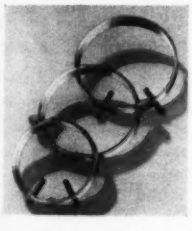
and grilles are supplied with the mains for installation. The accessories are made with snap lock joints to assure air tight performance of the system and to permit an easy fit and interchangeability of parts.

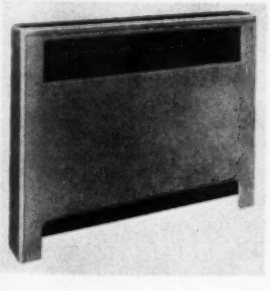
Flexibility in assembling is one of the features listed for the line of copper pipe hangers. The hangers are supplied with threaded and notched supporting rod that can be cut to allow different lengths for proper pitch. Two types of rings, split and solid, are used for the hangers and the supporting rod fits either type. The solid ring is made with adjusting screws to take up play and to permit movement of the pipe to allow for expansion and contraction. Ceiling plates to support the hangers are supplied in round and oblong shapes.

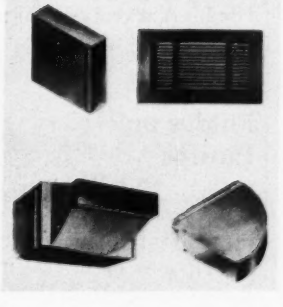
New tank stands for the company's range boilers of 25, 30 and 40 gal. sizes were also introduced. The stands are normally 7⅜ in. high from floor level to the bottom of the tank, and the legs are adjustable. The stand is finished in bronze to match the color of the company's line of tanks.

A new self-filling expansion tank just announced features a new metal alloy, and is designed to develop a corrosion resisting skin when subjected to acids or alkalis. A float valve, accessible through a sliding cover in the top of the tank, offers provision for an automatic supply of water at all times. The opening in the top of the tank also serves as a safety feature for either gravity or forced circulation systems by preventing the development of pressure as the water is heated, and in addition, allows a forced warm water system to operate as an open system.

American Radiator Co., 40 W. 40th St., New York, N. Y., announces these new products.







At the left are the new copper pipe hangers. The two illustrations below show the tank stand and the self-filling expansion tank. On the bottom row, the convector enclosure and duct fittings are shown

THAT'S WHAT GIVES YOU MANY MORE QUICK CLEAN CUTS Practically without Burr

The RIDGID Thin Tool-Steel Cutter Wheel

Not cut out of bar stock, this RIDGID Cutter Wheel is coined from tool-steel sheets, hammered, heat-treated and cast into a solid steel-bearing hub. This exclusive patented wheel gives you a durable cutting edge that means easier cuts and many more of them.

The cutter housing is steel re-inforced, guaranteed not to warp or break. The blade wheel cuts true.

RIDGID Heavy-Duty Cutter Wheel—for tough jobs and long service.

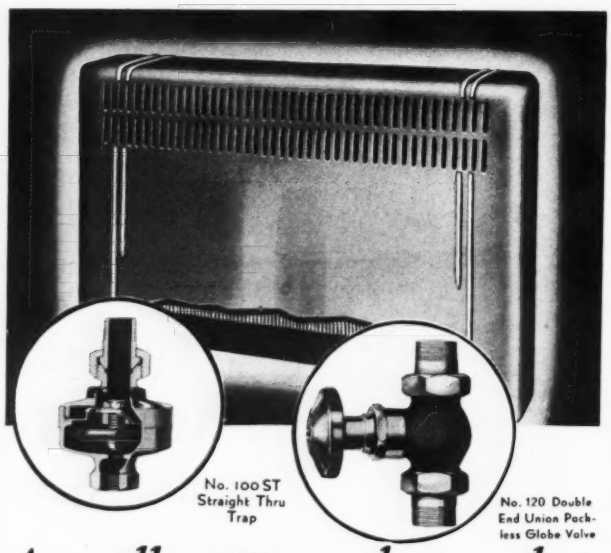
Ask your Jobber

RIDGID Tubing Cutter smooths the tube for soldering as it cuts, has integral reamer. Made in 2 sizes, for ⅛" tubing up.

THE RIDGE TOOL CO., Elyria, Ohio, U. S. A.

RIDGID PIPE TOOLS

If you want to reduce your wrench repairs fully 75%, buy RIDGID Pipe Wrenches with unconditionally guaranteed housings.



A small matter perhaps... but ever so **IMPORTANT!**

"For want of a nail a shoe was lost . . . for want of a shoe," etc. . . . and, in these modern times . . . "for want of precaution a TENANT is lost."

Eliminate costly mid-winter repairs and replacements on convector radiator jobs. Take the precaution to install MILVACO Thermostatic Traps and MILVACO Convector Radiator Valves. THEY ARE EASIER TO INSTALL and CONSIDERABLY MORE DEPENDABLE in service.

The MILVACO line is complete to meet every requirement of Vapor, Vacuum, Steam and Hot Water heating systems.

Added assurance without added cost . . . a small matter, perhaps, but ever so important to tenant satisfaction.

No. 252 Modulating Orifice Valve
No. 420 Single Union End Packed Convector Valve
No. 421 Single Union End Pak-Les Convector Valve
No. 418 Double Union End Packed Convector Valve
No. 419 Double Union End Pak-Les Convector Valve

MILWAUKEE VALVE COMPANY
MILWAUKEE WISCONSIN
Manufacturers of MILVACO Heating Specialties and APPROVED Bronze Valves

New Information and Aids to Sales

Booklet on Lead Pipe

The Lead Industries Association, 420 Lexington Ave., New York, has recently published a twenty-four page booklet dealing with lead pipe. The subjects covered in the booklet are described by the chapter headings: How Lead Is Made; Grades of Lead Pipe; Lead Pipe Plumbing at a Glance; Lead Interior Plumbing; Joints; Lead Pipe for Handling Corrosive Chemicals; Burning or Welding Lead; Calking Lead; Shower Pans and Roof Flanges; and Other Lead Work for the Plumber. The booklet also gives the new lead pipe standards. It is printed in colors, and measures 8½ by 11 in. in size.

Hydraulic Institute Standards

The Standards of Hydraulic Institute, published by Hydraulic Institute, 90 West Street, New York City, has just released the seventh edition of this publication. The material is divided into seven sections, which are the General Section, sections devoted to the Centrifugal Pump, the Rotary Pump, Reciprocating Pump, Deep Well Turbine Pump, Test Code and a General Data section. Material in this pamphlet is submitted as being the opinions and recommendations of the Hydraulic Institute as to what is considered good practice in the pump industry. For the convenience of those who may not be interested in the entire volume, the various sections may be ordered separately. The book measures 8½ by 11 in. and complete copies containing all the sections are available for $1.00, or separate sections may be had at prices ranging from 25 cents to 50 cents.

Refrigerating Data Book

The American Society of Refrigerating Engineers, 37 W. 39th St., New York, N. Y., have released the third edition of the Refrigerating Data Book. This edition, like its predecessors, is compiled by a group of engineers in the field, and contains about fifty pages more than the last edition. A good deal of this new material is made up as working examples. In the direction of air conditioning, six new chapters have been added. Fifteen new chapters are included in the book, and in addition, seven others have been extensively revised. A seventy-seven page catalog is also contained in the book, which sells for $4.00 and is available through the society.

Folder on Pumps

F. E. Myers & Bro. Co., Ashland, Ohio, has issued a two-color folder on pumps which is a tie-in with the current running water campaign. Illustrations and descriptions of several models in the company's line of pumps are given in the folder, which measures 3 by 6 in.

Booklet on Oil Burner Selling

Cleveland Steel Products Corporation, 7304 Madison Ave., Cleveland, Ohio, has issued a booklet, "How Far Will You Go . . . to build a more profitable oil burner business?" which analyzes the oil burner business so far as the dealer is concerned, and gives a sales program for successfully selling oil burners for domestic use. Copies are available through the company, upon request.

Booklet on Sheet Metal

A twenty-page booklet on sheet metal has been issued by Republic Steel Corporation, Cleveland, Ohio. Information on rust resistance, forming and welding properties, and data on physical properties and constants, forms, finishes, sizes and gauges are presented in the booklet, which also contains photographs showing uses of sheet metal in a variety of applications. The booklet is printed in colors, and is 8½ by 11 in. in size.

Poster on Trap Seal Valve

The Phillips Corporation, 806 S. W. Broadway, Portland, Ore., has issued a poster on its automatic trap seal valve featuring large cut-away views of dry and water sealed traps. The copy points to the need of keeping traps sealed, and ties in with how the trap seal valve manufactured by the Phillips Corporation does it. The poster is printed in three colors.

Portfolio on Insured Mortgages

The Federal Housing Administration is publishing a periodical "Insured Mortgage Portfolio" which contains news of mortgage associations, statistics on mortgage insurance, and gives information on FHA system of insured mortgages. The publication is a monthly, and the subscription price is $1.25 yearly.

Manual on Lawn Sprinkling

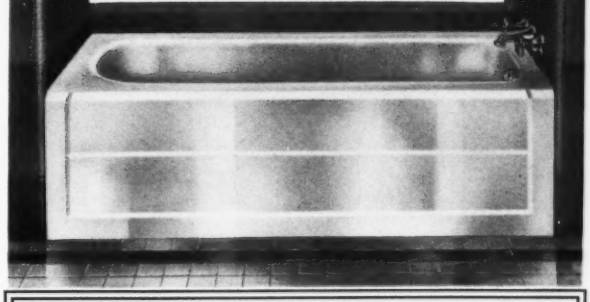
Northern Indiana Brass Company, 933 Plum St., Elkhart, Indiana, has issued a manual which tells how to plan and install the company's lawn spray system. It gives typical layouts of the piping systems, and contains detail drawings of a typical drain installation and of a remote control assembly. Installation data, such as number of spray heads required, pipe friction losses, etc., are also contained in the manual. Copies may be obtained by writing to the company.

Folder on Speed Reducers

A four-page two-color folder on speed reducers has been issued by the Janette Manufacturing Company, 556-558 W. Monroe St., Chicago, Ill. The folder describes and illustrates five models in the company's line, and contains a return postal card by which the sender may obtain an engineering booklet on speed reducers. The folder measures 8½ by 11 in. in size.

A MODERN FIXTURE

Styled TO Sell!



THE DISTINCTIVE ENAMELED WARE FOR THE DISCRIMINATING CUSTOMER

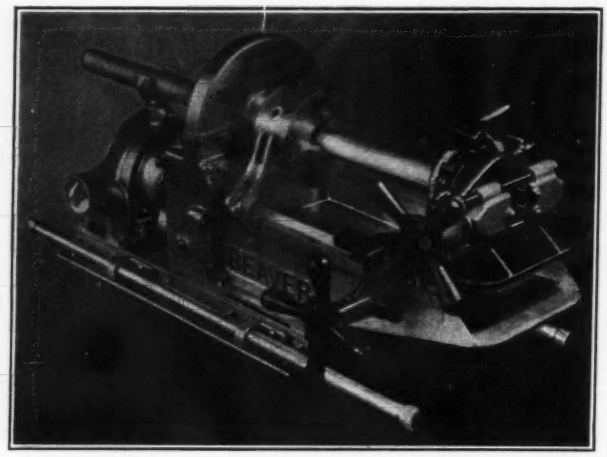
LIKE every other fixture in the *United States* Enameled Ware Line, the brand new NEPTUNA Recess Bath shown above has been deliberately designed to appeal to the prospective buyer . . . deliberately styled to *sell.*

A modern fixture in every sense, the NEPTUNA Recess Bath, by reason of its smart, graceful lines and pleasing hues, will distinctly enhance those interiors to which it may be adapted. It's a fixture your customers will want to *buy* . . a fixture you'll want to *sell.* Get the details. Write

United States Sanitary Mfg. Co.

GENERAL OFFICES: PITTSBURGH, PA.

THIS SHIELD IS YOUR PROTECTION



Are You "Mechanically Inclined"?

If so, you will appreciate the value of these three features of the Beaver Model-A Portable Pipe Machine.

1. Right-Handed

Conforming to standard machine tool design, the Model-A is right-handed like a lathe—with chuck to the left and tool-mounting and operating controls to the right. All controls in front—facing operator!

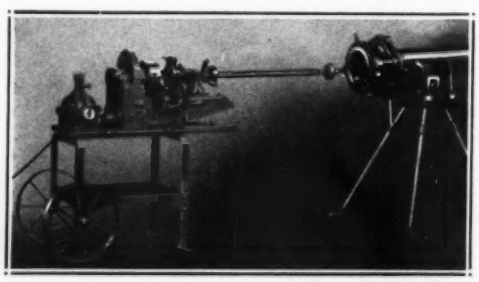
2. Full-Range

It covers the full range ⅛ to 2-inch instead of the usual range ½ to 2-inch. It cuts, threads, reams and chamfers nine sizes instead of six sizes. Those extra sizes, viz: ⅛, ¼ and ⅜-inch are important in every industrial plant where small pipe is used for air-line; lubricant lines; gases; etc.

3. Double-Duty

By virtue of its patented wheel-cutoff, the Model-A will both cut and thread solid round bars—for making threaded rods, bolts, pipe hangers, etc. This extremely important service feature cannot be had efficiently from machines equipped with knife-type cutoff.

When you buy a pipe machine demand these three advantages. In the meantime write us for complete descriptive literature of the Model-A Beaver Special—priced at $295.00 complete, ⅛ to 2-inch.



With drive shaft and geared tools, the BEAVER Model-A will cut and thread 2½ to 12-inch pipe.

BEAVER PIPE TOOLS

447 DOME AVENUE WARREN, OHIO

Literature on Oil Burning Boilers

National Radiator Corporation, 101 Park Ave., New York, N. Y., has issued five folders on different oil burning air conditioners it is marketing. One folder is general in character, covering the subject of home air conditioning. The others deal, respectively, with the National Nu-Way unit, the National Toridheet, the National Williams steel unit and the National Williams cast iron units. Each of these folders contains photographs and descriptive matter on the unit it covers.

Broadside on Anthracite Water Heaters

Anthracite Industries, Inc., Chrysler Building, New York, has released a broadside on its campaign on anthracite burning water heaters. The mailing piece outlines the potential market for the heaters, and gives the plan for getting into the market. Proofs of the advertising mats which the group is offering to dealers in the campaign are also contained in the broadside.

Literature on Controls

Mercoid Corp., 4201 Belmont Ave., Chicago, has released a sixteen-page plastic bound booklet on its line of automatic controls—thermostats, line safety controls, pressure limit and low water controls, hot water temperature controls, furnace controls and mercury contact switches. Photographs illustrate the booklet, which contains, in pockets on the inside back cover, smaller mailing pieces for distribution by the dealer.

Bulletin on Pumps

Goulds Pumps, Incorporated, Seneca Falls, N. Y., is issuing a bulletin on its line of pumps which gives complete information on ratings, construction, capacities, specifications, dimensions and similar data. The bulletin describes twenty-one models in the line.

Booklet on Boilers

Waterfilm Boilers, Incorporated, 154 Ogden Ave., Jersey City, N. J., has recently issued a twelve-page booklet on its boilers, which is intended for consumer distribution. The booklet illustrates, by simple drawings, some of the principles upon which an effective boiler is designed. It also contains photographs and sectional views of some of the company's boilers, and one view of an air conditioner. The folder is printed in colors, and is trimmed so that it resembles a boiler in shape. It measures approximately 7 by 5 in. in size.

Broadside on Heating Equipment

Scott-Newcomb, Inc., 1922 Pine St., St. Louis, Mo., mailed recently a broadside on its heating equipment, describing and illustrating its boilers, air conditioners, oil burners, stokers, and other equipment such as water heaters, water softeners and accessories.

Booklet on Air Conditioner

Utica Radiator Corporation, Utica, N. Y., has released a sixteen-page four-color booklet on its new air conditioning unit. The booklet describes and illustrates the new unit, and cross-sectional views show the operation of the unit and depict the featured operation of the unit, which is washing the air which passes through it. A part of the booklet is devoted to the general aspects of air conditioning. Photographs show various types of structures in which the air conditioner is installed. The booklet measures 8½ by 11 in. in size.

Folder on Stokers

An eight-page folder on stokers has been issued by Kol-Master Corporation, Oregon, Ill., which describes and illustrates various models of its stokers, and contains photographs showing the stokers installed with different types of heating boilers. Sectional views showing featured parts of the stokers are also contained. A page is given over to testimonials from users of the stokers. The folder measures 8½ by 11 in.

Folder on Current Input Controller

A six-page folder describing and illustrating a current input controller has been released by the Automatic Temperature Control Co., Philadelphia, Pa. In addition to photographs of various models in the line, the folder contains information in regard to its use for different applications, wiring diagrams, ratings and similar data. The folder measures 8½ by 11 in. in size.

Booklet on Unit Heaters

A twelve-page booklet on unit heaters has been issued by Fedders Manufacturing Co., Inc., 57 Tonawanda St., Buffalo, N. Y. The folder describes, illustrates, and gives specifications, dimensional data and typical piping layout for various of the models in its line. The folder is printed in colors, and measures 8½ by 11 in. in size.

Mailing-Piece on Boilers

Fitzgibbons Boiler Company, Inc., 101 Park Ave., New York, N. Y., has recently mailed a promotional mailing piece on its steel boilers which features the fact that sales of the company's line of boilers are continuing to rise. The mailing piece is part of a dealer mailing. It is printed in colors, and measures 8½ by 4 in.

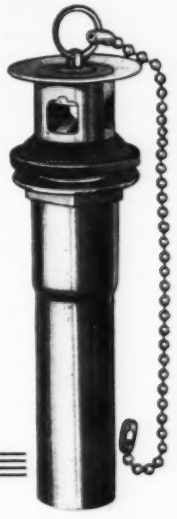
Folder on Steam Conduit

H. W. Porter & Company, 825 Frelinghuysen Ave., Newark, N. J., is distributing a folder on its new underground steam conduit. The folder is so made up that starting at the back and continuing to the front are consecutive illustrations showing the steps taken in installing the conduit. It contains six pages, and measures approximately 8½ by 4 in.

product of

THE M. S. LITTLE MFG. CO.

HARTFORD - - - - CONNECTICUT



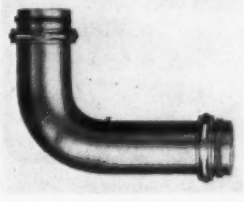
Tubular Brass Plumbing Goods

A quarter century devoted to the manufacture of products for the Plumbing and Heating Trade. The words "Sure Hot" used on Air Valves and Indirect Water Heaters is a standard of value to those demanding quality plus dependability of operation.

P. O. PLUGS

The strainer, one of the important parts of the P. O. Plug, is formed from the body of the plug itself. Increased waterway and added strength is the result. Full "V" threads on the tail piece. Full size Hex Nut for wrench application. Furnished complete with 1" Red Rubber Mack Washer.

Illustrated: No. 65501 1¼" O. D. 5" Brass Tubing tailpiece. Made also in various tailpiece lengths gauges and in 1½" O. D.



"Ideal" Elbows

for low down tanks. 2" O. D. 90° Elbows. Polished Nickel or Chrome Finish. Equipped with Cast Brass Hex Nuts and Rubber washers — Brass Friction Rings if desired.

Complete Catalog Sent upon Request

1912 25TH ANNIVERSARY YEAR 1937

They Satisfy

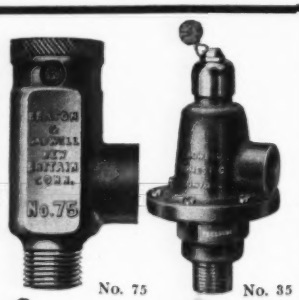
THE DEMAND FOR HEATING COMFORT

Nothing is more important to the homeowner today than his own personal comfort. That's the one element he demands more than anything else of the heating equipment he buys for his home. Because they meet this demand most satisfactorily, more CADWELL Products are being specified by heating contractors today than ever before. For more than 43 years CADWELL Products have been recognized by the trade as being thoroughly dependable in service. Heating jobs employing CADWELL Products have always been jobs well done. Having reached their present stage of perfection these products contribute even more today toward making a good heating job better. Satisfy today's demand for heating comfort with CADWELL Products.

The CADWELL No. 45 SYSTEM for HOT WATER HEATING. Give your customers the many advantages of this dependable, *complete* hot water heating system . . . a system which properly protects the boiler . . . keeps the system balanced with water . . . and controls expansion pressure. It's a necessity to every hot water heating job. It may be used with or without any type of flow control valve or circulator. Install it in a minimum of time and with a minimum of labor.

No. 45

CADWELL No. 75 PRESSURE AND TEMPERATURE RELIEF VALVE. This is a competitive type relief valve, of the fusible plug type, which does not include self-closing feature.



No. 75

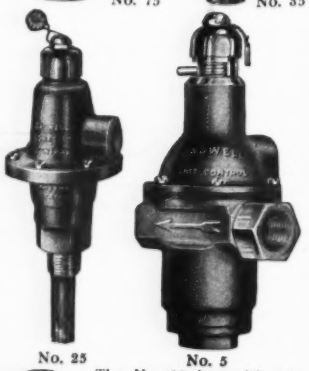
No. 35

☆

CADWELL No. 35 (DIAPHRAGM TYPE) PRESSURE AND VACUUM RELIEF VALVE. A thoroughly dependable relief valve for use where a temperature relief valve is not necessary.

☆

CADWELL No. 25 TEMPERATURE, PRESSURE, VACUUM RELIEF VALVE. A self-closing diaphragm type relief valve for use on range boilers. Its one seat is governed by internal pressure. Endorsed by public safety officials.



No. 25

No. 5

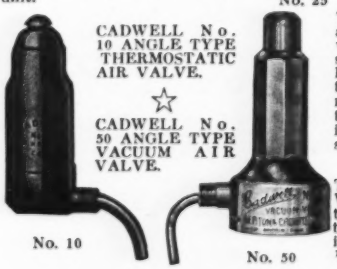
☆

CADWELL No. 5 HOT WATER CONTROL VALVE. For feeding water supply to hot water boiler. Relieves system of high pressures. A feed valve, relief valve, ball check, screen and back pressure valve in a single unit.

CADWELL No. 10 ANGLE TYPE THERMOSTATIC AIR VALVE.

☆

CADWELL No. 50 ANGLE TYPE VACUUM AIR VALVE.



No. 10

No. 50

The No. 10 is positive in action, dependable in service. Completely thermostatically controlled. At left is the No. 10 angle type valve. It is also furnished in quick vent types which are available in ⅛" and ¼" and ¾x⅜" sizes.

☆

The No. 50 Vacuum Air Valve properly equalizes the one-pipe steam system. It is also furnished in quick vent types either ¼" or ¾x⅜" sizes.

FLOOR AND CEILING PLATES. This is the No. 10 PERFECTION. It is one of a complete line of floor and ceiling plates, available in a wide variety of styles and sizes. PERFECTION Copper Service Tube Plates in this No. 10 type are available in sizes ⅜" to 2" inclusive.

Order through your wholesaler.

The BEATON & CADWELL MFG. CO.

Established 1894

NEW BRITAIN, CONN.

Catalog on Flush Valves

Speakman Company, Wilmington, Del., has released a forty-four page catalog describing its line of flush valves for water closets and urinals and accessories adaptable for the requirements of sanitary plumbing. Photographs and descriptive material in the catalog cover back-siphonage preventers; exposed top supply, exposed back supply, exposed side supply, concealed piston, seat operated, urinal, floor, and pedal operated flush valves, and measuring shower valves. Keyed sectional photographs illustrate features of the valves. Roughing in dimensions are given in the drawings in the catalog. This is supplemented by a section containing supply piping data, with eleven tables giving pressure drop for different size iron pipe with various rates of flow. The catalog measures 8½ by 11 in. in size.

Folder Describes Auditorium License

The Auditorium Conditioning Corporation, 17 E. 42nd St., New York, has issued a four-page folder describing the Auditorium Licensing Plan. It shows how permission to use the features of the Auditorium Corporation systems may be obtained, and contains information relative to central station air conditioning systems and air conditioning units as well. It measures 8½ by 11 in.

Folder on Insulation

Armstrong Cork Products Company, Lancaster, Pa., has issued a forty-page booklet on its corkboard insulation for walls and roofs which gives photographs of buildings using the insulation and of the actual installation procedure, and also contains tables showing heat transmission coefficients.

Literature on Stokers

A mailing on industrial and domestic model stokers is being issued by Holcomb & Hoke Mfg. Co., 1545 Van Buren St., Indianapolis, Ind. In the folder on industrial models, a keyed photograph points out the features for the model, and letters from users of the stoker are reproduced. The folder on the domestic stokers stresses the simplicity of heat control with the stoker, and contains also a chart for figuring the difference in cost between hand firing and automatically firing the heating plant. The third piece in the mailing is an 11 by 34 in. window sticker.

Folder on Oil Burning Boiler

Pierce Butler Radiator Corp., 701 Nichols Ave., Syracuse, N. Y., has just released a four-page folder, which is printed in two colors, on its new model oil burning boiler. Features of the boiler are given in the folder, along with photographs of two models, one with a flush cabinet and the other with an extended cabinet, to accommodate long gun type burners. Specifications and ratings are also contained in the folder, which is 8½ by 11 in. in size.

NEWS *of* PATENTS

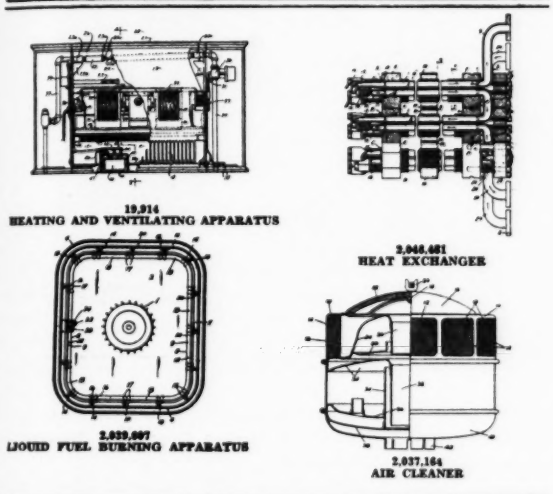
Heating

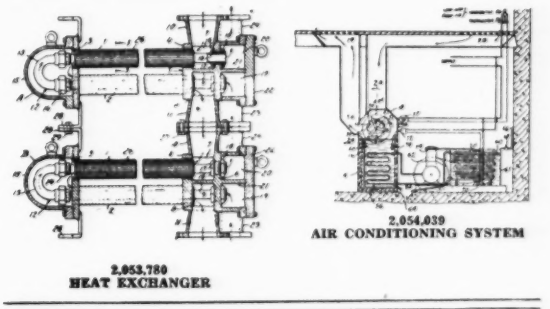
19,914. Heating and Ventilating Apparatus. Warren Ewald, Philadelphia, Pa., assignor, by mesne assignments, to Buckeye Blower Company, Columbus, Ohio, a corporation of Delaware.

2,039,607. Liquid Fuel Burning Apparatus. Milton A. Powers, Detroit, Mich., assignor to The Timken Silent Automatic Company, Detroit, Mich., which is a corporation of Michigan.

2,046,481. Heat Exchanger. Joseph Price, West New Brighton, Staten Island, N. Y., assignor to The Griscom-Russell Company, New York, N. Y., which is a corporation of Delaware.

2,037,164. Air Cleaner. Clayton C. Harrah, Niles, Mich., assignor to National Standard Company, which is in Niles, Mich.





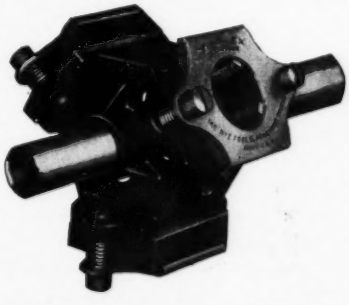
2,053,780. Heat Exchanger. Joseph Price, West New Brighton, Staten Island, and Russell C. Jones, Bronxville, N. Y., assignors to The Griscom-Russell Company, New York, N. Y., a corporation of Delaware.

2,054,039. Air Conditioning System. Lawrence M. Persons, Des Moines, Iowa, assignor to Penn Electric Switch Co., Des Moines, Iowa, a corporation of Iowa.

NYE TOOLS

"The Kind You Swear By and Never At"

NEW "TRIPLEX" STOCK



THE tool illustrated is presented in response to popular demand for a lightweight combination stock for use with solid dies.

Without sacrificing the durability of the stock, numerous openings have been provided, not only to prevent chip accumulation, but to allow the operator to apply oil freely on the pipe.

Furnished with Nye No. 1 skip-tooth solid dies in two combinations—⅜" to ¾" and ½" to 1".
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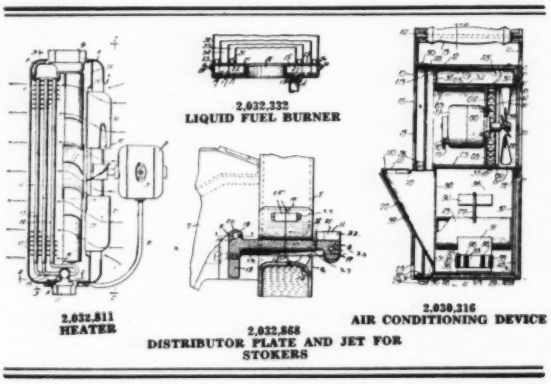
A handy timesaver every master plumber will appreciate. That's the new "ACME" Master Kit. Its all-metal container is readily carried in pocket or kit. In its separate, clearly indexed compartments there's a selection of "ACME" Beveled Faucet Washers in 8 convenient sizes . . . 200 pieces in all. It's COMPACT . . . It's COMPLETE. Remember, these are the washers that have performed so satisfactorily for so many years . . . that are immune to the ravages of hot or cold water . . . that allow a full waterway and seat perfectly. The "ACME" Master Kit now facilitates their use. Order yours from your wholesaler today.

LAVELLE RUBBER CO. 320 W. ILLINOIS STREET CHICAGO :: ILLINOIS

2,032,811. Heater. Charles T. Perkins and Benjamin Spieth, Racine, Wis., assignors to Modine Manufacturing Company, Racine, Wis., which is a corporation of Wisconsin.

2,032,332. Liquid Fuel Burner. Ralston M. Sherman, Glastonbury, Conn., assignor to The Silent Glow Oil Burner Corporation, Hartford, Conn., which is a corporation of Connecticut.

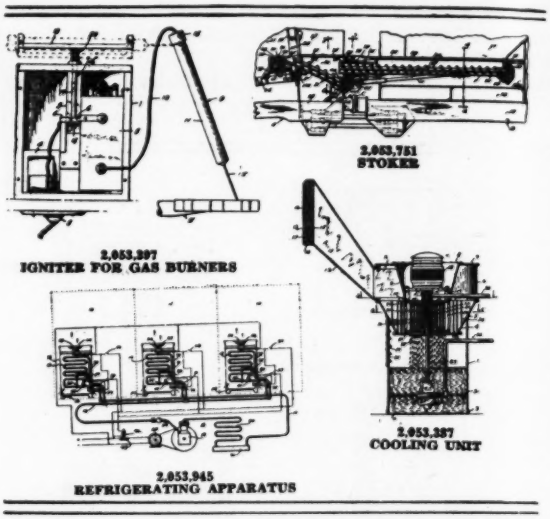
2,032,868. Distributor Plate and Jet for Stokers. Washington T. Capps, Baltimore, Md., assignor to The Standard Stoker Company, Incorporated, which is a corporation of Delaware.



2,030,316. Air Conditioning Device. Fred M. Opitz, Milwaukee, Wis., assignor of the patent to the Hexcel Radiator Company, Milwaukee, Wis., a corporation of Wisconsin.

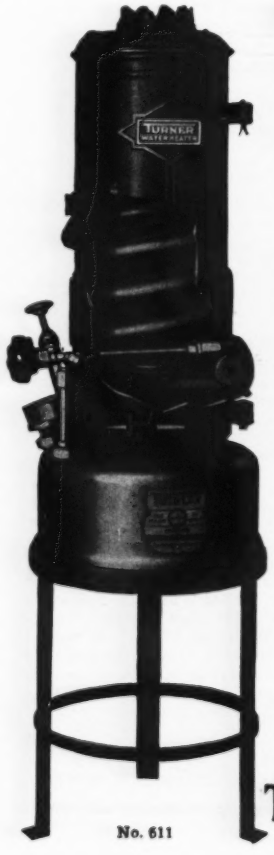
2,053,397. Igniter for Gas Burners. Tony G. Failla, Detroit, Mich.

2,053,945. Refrigerating Apparatus. Stuart H. Cowin, Dayton, Ohio, assignor to General Motors Corporation, Dayton, Ohio,, a corporation of Delaware.



2,053,751. Stoker. Edwin Archer Turner, New York, N. Y., assignor to The Standard Stoker Company, Incorporated, a corporation of Delaware.

2,053,387. Cooling Unit. Walter W. Williams, Bloomington, Ill.



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Turner Features

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Burner lights instantly. Develops a hot blue flame in one minute. Automatically cleaned generator tip.

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The flame is completely controlled, giving slow or fast heating capacity as desired.

EASE OF OPERATION
Very easy to operate; only a few simple and understandable directions to follow. All operating controls conveniently located.

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Compactly built with tank beneath the heater so that small floor space is taken.

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Burns with non-smoking odorless clear blue flame.

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Tempered Steel
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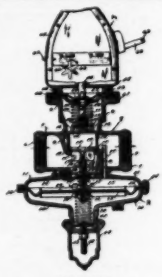
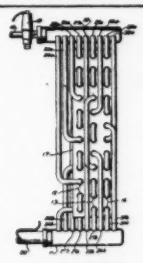
10 AUSTIN STREET WORCESTER, MASS.

2,054,481. Gas Furnace Controlling Mechanism. Allen D. MacLean, Pittsburgh, Pa., assignor to Pittsburgh Equitable Meter Company, Pittsburgh, Pa.

2,054,404. Refrigeration Apparatus. Joseph Askin, Buffalo, N. Y., assignor to Fedders Manufacturing Company, Inc., Bufffalo, N. Y.



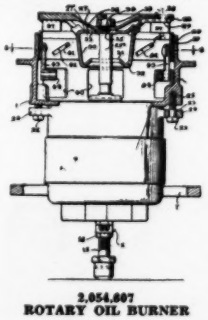
2,054,481
GAS FURNACE CONTROLLING MECHANISM



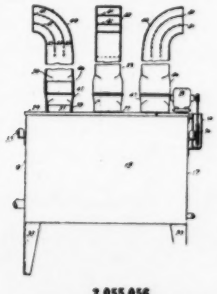
2,054,404
REFRIGERATION APPARATUS

2,054,607. Rotary Oil Burner. Theophilus H. Smoot, Baltimore, Md., assignor to Anchor Post Fence Company, Baltimore, Md., a corporation of Maryland.

2,055,056. Unit Air Conditioner. Fred M. Young, Racine, Wis., assignor to Young Radiator Company, Racine, Wis.



2,054,607
ROTARY OIL BURNER

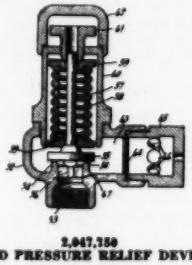


2,055,056
UNIT AIR CONDITIONER

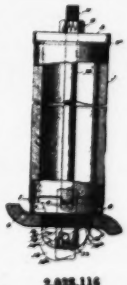
2,047,750. Fluid Pressure Relief Device. George H. Smith, Buffalo, N. Y., assignor, by mesne assignments, to Union Carbide and Carbon Corporation, New York City.

2,038,116. Tool. William P. Kliment, Chicago, Ill., assignor to Crane Co., Chicago, Ill., a corporation of Illinois.

2,047,654. Relief Valve. Edmund J. Te Pas, Lakewood, Ohio, assignor to The Cleveland Heater Company, Cleveland.

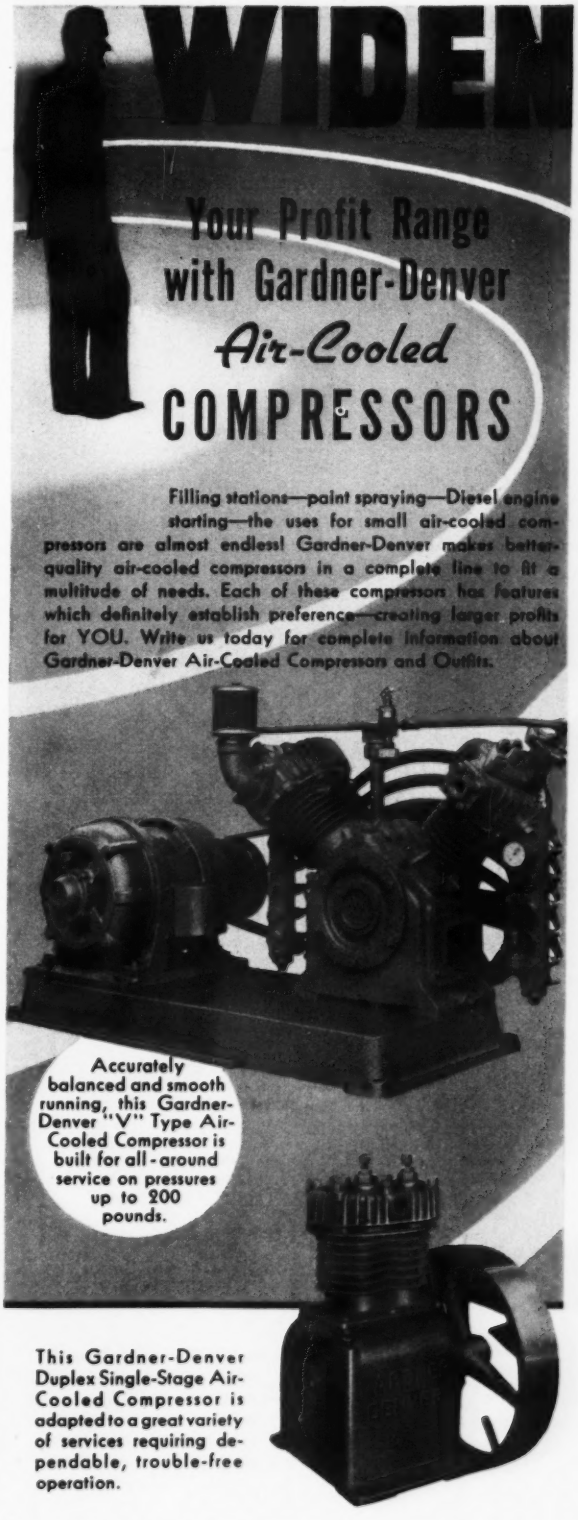


2,047,750
FLUID PRESSURE RELIEF DEVICE



2,038,116
TOOL

2,047,654
RELIEF VALVE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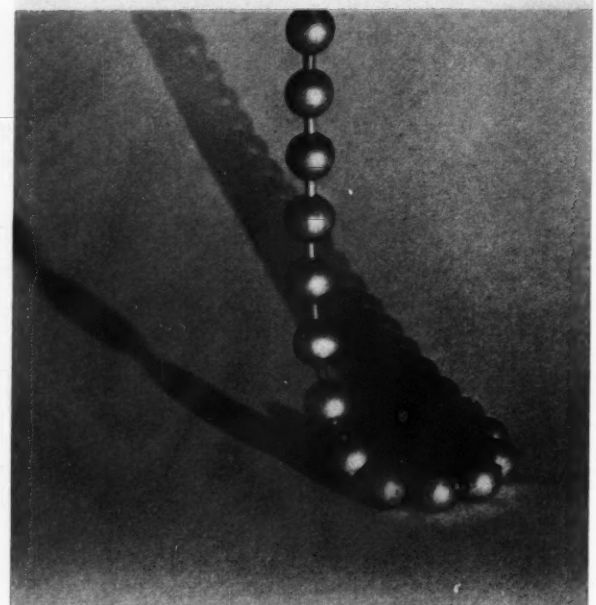

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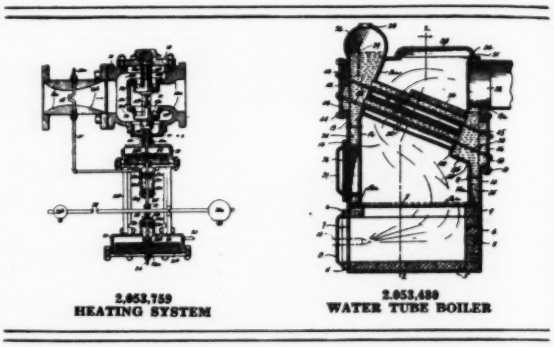
THE BEAD CHAIN MANUFACTURING CO.
* TRADE MARK REG. U. S. PAT. OFF.
BRIDGEPORT, CONNECTICUT

2,053,480. Water Tube Boiler. Frederick T. Jenkins, Seattle, Wash.

2,053,759. Heating System. Thomas Napier Adlam, Bethlehem, Pa., assignor to Sarco Company, Inc., a corporation of New York.

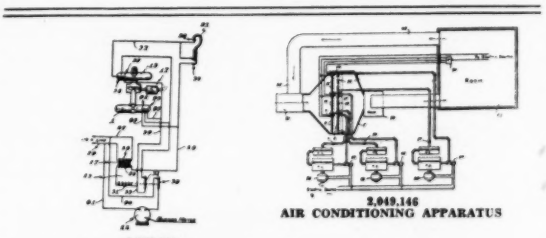


2,053,759
HEATING SYSTEM

2,053,480
WATER TUBE BOILER

2,049,288. Combined Pressure and Temperature Control for Steam Heating Systems. Frederick C. Broderick, Winnetka, Ill.

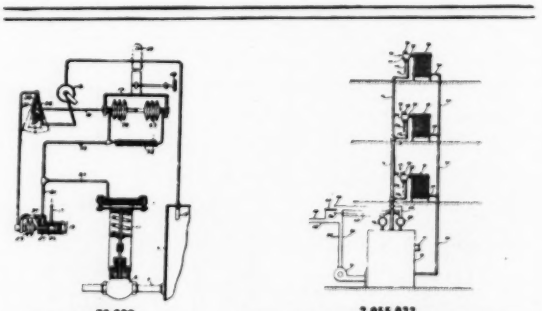
2,049,146. Air Conditioning Apparatus. Alfred B. Wason, Montclair, N. J., assignor to Cooling & Air Conditioning Corporation, Boston, Mass.



2,049,288
COMBINED PRESSURE AND TEMPERATURE CONTROL FOR STEAM HEATING SYSTEMS

2,049,146
AIR CONDITIONING APPARATUS

20,092. Control Mechanism. Clesson E. Mason, Foxboro, Mass., assignor to The Foxboro Company, Foxboro, Mass., a corporation of Massachusetts.



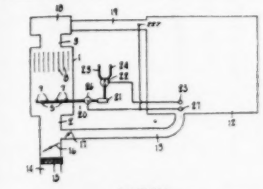
20,092
CONTROL MECHANISM

2,055,033
TEMPERATURE CONTROL SYSTEM AND APPARATUS

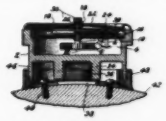
2,055,033. Temperature Control System and Apparatus. George D. Kingsland, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Company, Minneapolis, Minn., a corporation of Delaware.

2,048,851. Method and Apparatus for Conditioning Air. Sewell H. Downs, Kalamazoo, Mich.

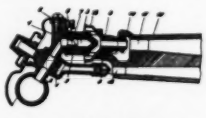
2,048,260. Regulating Nozzle for Gas Burner and the Like. Hermann Guhl, Baden, Germany.



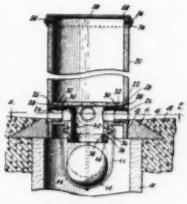
2,048,851
METHOD AND APPARATUS FOR CONDITIONING AIR



2,048,512
TEMPERATURE INDICATOR



2,048,260
REGULATING NOZZLE FOR GAS BURNERS AND THE LIKE



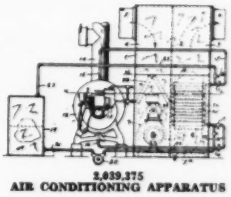
2,049,340
DRAIN

2,048,512. Temperature Indicator. Laurence M. Oakley, Trenton, N. J.

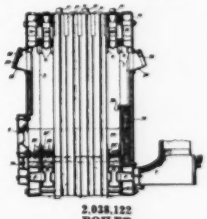
2,049,340. Drain. Henry Van Der Horst and Raymond E. Hanson, Chicago, Ill.

2,039,375. Air Conditioning Apparatus. Glenn F. Zellhoefer, Bloomington, Ill., assignor to Williams Oil-O-Matic Heating Corporation, Bloomington, Ill., a corporation of Illinois.

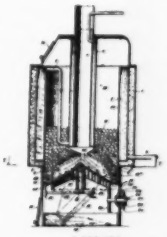
2,038,122. Boiler. Charles A. Olson, Geneva, and John P. Magos, Chicago, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois.



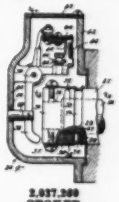
2,039,375
AIR CONDITIONING APPARATUS



2,038,122
BOILER



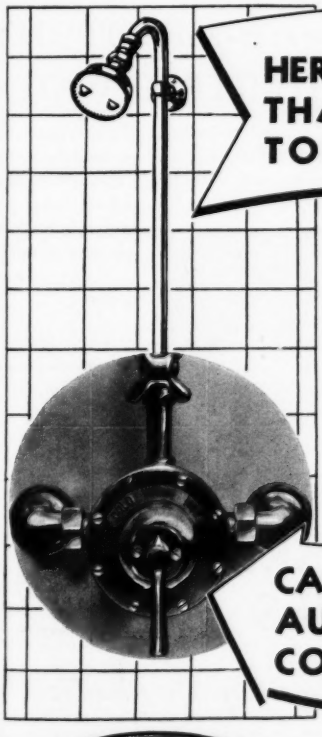
2,039,423
COMBUSTION HEATER



2,037,260
STOKER

2,039,423. Combustion Heater. Allen J. Johnson, Primos, and Paul A. Mulcey, Philadelphia, Pa., assignors, by mesne assignments, to Anthracite Devices Corporation, Dover, Del., a corporation of Delaware.

2,037,260. Stoker. Floyd R. Nelson, Rockford, Ill., assignor to Cotta Transmission Corporation, Rockford, Ill., a corporation of Illinois.



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SAFE-T-SHOWR

DORAN COMPANY
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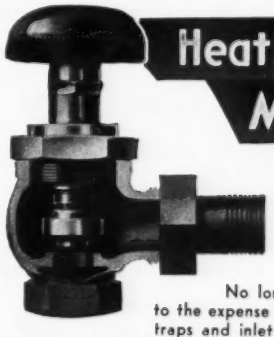

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No longer is it necessary to go to the expense of pulling out old radiator traps and inlet valves to make a heating system more efficient.

By installing Sarco Adapters in the bodies of old radiator traps, we guarantee to make them as good as new in steam saving at a trifling cost.

Sarco Adapters

make radiators heat evenly and rapidly so that ample heat is furnished with greatly reduced steam pressure.

Sarco Adapters consist of a cap and a motor element which can be easily fitted into old traps without disturbing the pipe connections.

Inlet Valves, too, can be modernized with Sarco Packless Valve Bonnets.

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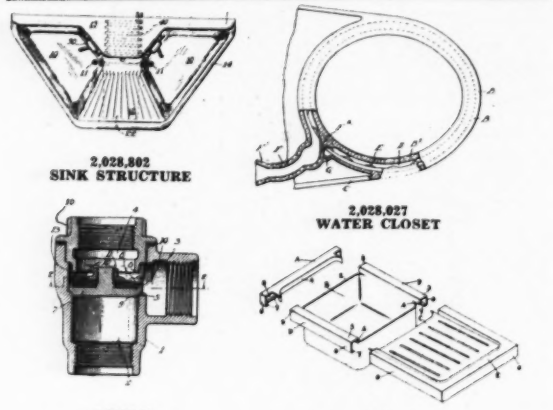
183 Madison Ave., New York, N. Y.

Branches in Principal Cities
SARCO CANADA, Limited
Federal Bldg., Toronto, Ont., Canada

Plumbing

2,028,802. Sink Structure. Robert L. Ottke, Fox Chapel Manor, Pa., assignor to Standard Sanitary Manufacturing Company, a corporation of New Jersey.

2,028,101. Vacuum Breaker Valve. Edward A. Frederickson, Chicago, Ill., assignor to Crane Company, Chicago, Ill.



2,028,802 SINK STRUCTURE

2,028,027 WATER CLOSET

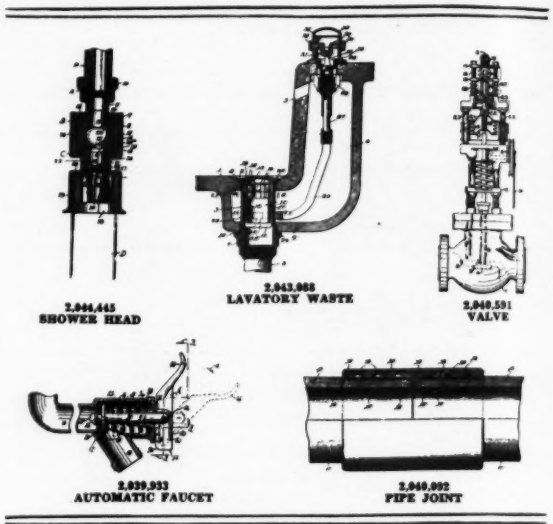
2,028,101 VACUUM BREAKER VALVE

2,029,802 SINK AND DRAINING BOARD, PARTICULARLY FOR DOMESTIC USE

2,028,027. Water Closet. James M. Teahen, Detroit, Mich.

2,029,802. Sink and Draining Board, Particularly for Domestic Use. Owen Thomas Webber, London, England.

2,044,445. Shower Head. Emil Price and William A. Pfister, Los Angeles, Calif.



2,044,445 SHOWER HEAD

2,043,088 LAVATORY WASTE

2,040,591 VALVE

2,039,933 AUTOMATIC FAUCET

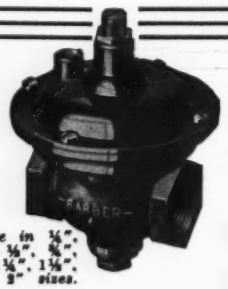
2,040,092 PIPE JOINT

2,039,933. Automatic Faucet. Richard Rupert, Kansas City, Mo., assignor to Rupert Diecasting & Stamping Corporation, Kansas City, Mo., a corporation of Missouri.

2,043,088. Lavatory Waste. Roy H. Zinkil, Oak Park, and Eugene W. Marchand, Maywood, Ill., assignors to Crane Co., Chicago, Ill., a corporation of Illinois.

2,040,591. Valve. Joseph M. Barrett, Cleveland Heights, Ohio, assignor to Bailey Meter Company,

2,040,092. Pipe Joint. Walter Leedy, Youngstown, O.



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in a
Gas Pressure REGULATOR
is **"BARBER"**

● Even if it cost twice as much, there would still be good value in a Barber Regulator. Built to exacting standards of precision, it has the responsiveness and accuracy of operation that are beyond price. Gas-tested for operation within three-tenths pressure drop and rigidly inspected. Approved by A. G. A. Neat and compact design, all-bronze bodies, a quality product in every detail. Yet Barber Regulators are sensibly priced!

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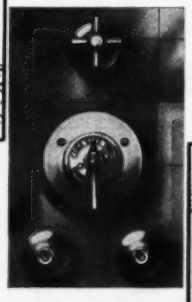
For delivering PERFECTLY TEMPERED WATER

These valves meet all qualifications and are definite and indispensable factors in home and institution. The anti-scalding and anti-chilling feature is outstanding, insuring safety, comfort and economy.



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LEONARD VALVES

Thermostatically Controlled!

LEONARD-ROOKE COMPANY, INC., MFRS.
1360 ELMWOOD AVENUE
CRANSTON, R. I.

Chateau de Cande—

(Continued from Page 91)

Today the United States occupies that position of leadership and has a large foreign market for plumbing supplies.

Much is said for the utilitarian beauty of modern plumbing fixtures by this modernization process carried on in the Chateau de Cande. To many it would seem that chateau architecture and modern plumbing could not be reconciled; that a combination of the two would destroy romance and architectural beauty. Today's plumbing fixtures have elastic characteristics of design that make them applicable to any type or style of architecture wherever comfort and sanitation are valued, be it French Chateau or American cottage. Interest is added to this chateau and its accommodations when it is learned that it is serving as the temporary home of Mrs. Wallis Simpson, fiance of the Duke of Windsor.

MODERN PLUMBING APPEAL

The Plumbing and Heating Industries Bureau supplied the Associated Press with photographs and a release on the plumbing installation made at the Chateau de Cande. These, in turn, were sent by telephoto process to 800 leading daily newspapers. This seems to prove that modern plumbing has an appeal no matter where it is installed.

Advertising—

(Continued from Page 93)

by Morris was beyond his ability to buy, and he has been able to capitalize on it to the fullest.

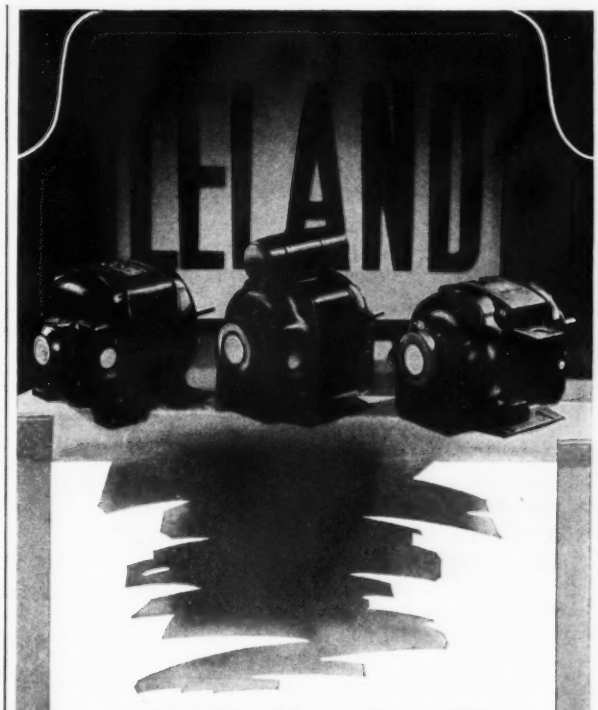
Now a word for the house itself with reference to the plumbing and heating. Between the master bedroom and the girl's room is the main bathroom with walls and ceiling of vitrolite in tones of green, accentuated by a jade wainscoting of the same material and rubber floors in harmonizing colors. The lighter fixtures such as hand grips, towel racks and medicine cabinet are chromium plated. Indirect lighting is used. Adjoining the boys' room is another bathroom which also includes a shower stall, lined with vitrolite.

PROVISIONS FOR AIR CONDITIONING

All copper piping for hot and cold water from the service tap on the water main to all faucets was used.

The cellar has been brought upstairs in the model home and provision for air conditioning has been installed in a room adjoining the kitchen, sunk 3 ft. below the floor level. It includes a heating plant fed by a bin feed coal stoker. The stoker has no hopper since coal is fed by a delivery screw direct from the coal bin to the heating plant.

Coal trucks can back right through the driveway to the rear of the house and dump fuel into a tightly-lidded coal bin, which is hidden in a chest-effect siding near the kitchen entrance.



MOTOR TRADEWINDS

The buyers of approximately 2,000,000 fractional horse-power motors during 1936 have spoken. They class the Leland motor among the "elite" from the standpoint of design and dealer acceptance.

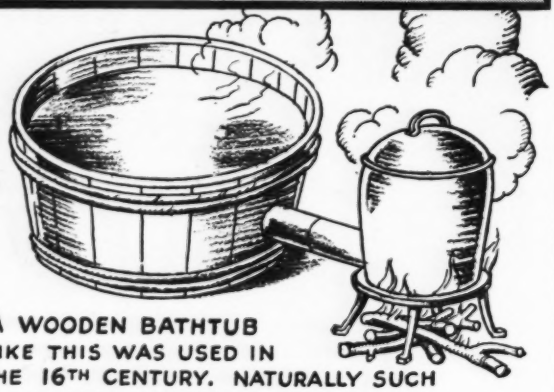
They place the Leland organization in the topmost bracket when it comes to delivery and field service.

These are the results of a widespread investigation by a disinterested organization. They disclose that when you power your appliance with a Leland you are catering to dealer preference, setting sail before the tradewinds of well-established general acceptance.

THE LELAND ELECTRIC COMPANY

DAYTON, OHIO, U. S. A.

FACTS OF INTEREST TO PLUMBERS!



A WOODEN BATHTUB LIKE THIS WAS USED IN THE 16TH CENTURY. NATURALLY SUCH A TUB WOULD SUFFER VERY LITTLE FROM HARSH CLEANSERS

TODAY'S BEAUTIFUL PORCELAIN ENAMEL FIXTURES WITH THEIR SMOOTH GLOSSY SURFACES NEED OLD DUTCH ···THE CLEANSER MADE WITH SEISMOTITE. PROTECT THE PLUMBING YOU INSTALL BY RECOMMENDING THAT IT BE CLEANED ONLY WITH OLD DUTCH.

No destructive scratching when you use Old Dutch

THIS TEST PROVES THAT OLD DUTCH DOESN'T SCRATCH

Sprinkle a little Old Dutch on the back of a plate. Rub with a coin and listen. You'll hear no grinding or grating, for Old Dutch is free from harsh, scratchy grit. Now make the same test with an ordinary cleanser and notice the difference!

"And clean it with Old Dutch Cleanser." This friendly advice is given by plumbers everywhere when they have completed or serviced a plumbing installation. For Old Dutch Cleanser has a unique protection to give to fine plumbing fixtures. It is made with Seismotite — tiny, flat-shaped particles that do not scratch. Old Dutch cleans quickly, leaves a high luster. It is economical — goes further. Recommend Old Dutch and your plumbing will keep "that show-room luster."

Soil Pipe Mfgrs.—

(Continued from Page 69)

60 per cent is reduced one-fourth of one per cent for every 25 cents of rate of freight per ton from Birmingham to Chicago. Since said $8.00 freight rate is divisible by 25 cents with a quotient of 32, one-fourth of 32 per cent, or 8 per cent, is to be subtracted from the 60 per cent basic discount. This leaves a discount of 52 per cent to be used in deriving the Chicago delivered price, instead of the Birmingham basic discount of 60 per cent. The resulting delivered price at Chicago, irrespective of where the pipe was actually produced, is $48. Assuming that the trade discounts to the wholesale buyer are 10, 10 and 5, the resulting net price at Chicago is approximately $36.94 per ton.

(d) The Birmingham Plus pricing formula as stated in sub-paragraph (b) of this Paragraph Five gives results, as said system is exemplified in sub-paragraph (c) in this Paragraph Five, only approximately. Respondents thereunder quote and sell cast iron soil pipe upon price lists which include also a great variety of fittings for the pipe. All producing respondents use identical price lists which were adopted by concerted action about ten years ago and have not since been substantially modified. Advances in delivered prices are made, also by concerted action on respondents' part, by reducing the basic discount made from the aforesaid $100; and reductions are made by increasing said basic discount. The list prices of pipe have been so fixed as to approximate as nearly as possible to $130 per ton in order that, when the trade discounts, in sub-paragraph (b) of this Paragraph Five mentioned, are applied the net resulting prices, Birmingham, shall approximate as nearly as practicable the $100 postulated as the point of departure for the formula stated in sub-paragraph (b) of this Paragraph Five. Thus the Birmingham Plus system as generally stated in sub-paragraphs (a) and (b) of this Paragraph Five is effectuated for the most frequently sold sizes of pipe. The sizes of pipe listed at prices which do not approximate $130 as foresaid and fittings, are nevertheless quoted and sold by respondents in carload lots at list prices which have been agreed upon, and which are subject to uniform basic and trade discounts, all as more fully alleged in sub-paragraph (b) of this Paragraph Five.

Paragraph Six: The effect of the adoption, continuance and maintenance of the Birmingham Plus system in the cast iron soil pipe industry, to the extent that the system has been and is followed, has been and is completely to destroy competition in price. Thereunder each producing respondent makes a delivered price identical with that made by every other producer adhering to the system, to any given customer wherever said customer may be located. This is done by each with the knowledge that all other producers following the system will quote and charge delivered prices identical with its own and with one another. Among the further effects of the Birmingham Plus system, to the extent that the same is in use, are the following:

(a) Each producing respondent, except those located in the Birmingham district, receives his highest net return, or true price, when he sells to buyers in his own

locality, since he adds to the base price at Birmingham the rate of freight from Birmingham to his own said locality and has actual cost of delivery except, in some instances, switching charges. He does not however, when following the Birmingham Plus system, reduce his local delivered price in order to hold the business of buyers located in his own city or vicinity. On the contrary he refrains from price competition and offers no price concessions such as might, if met by distant producers, make the business undesirable to the latter producers. Thus each respondent producer, when the system is followed, is enabled to sell at the location or in the vicinity of the foundries of other producers without encountering any actual price competition from such other producers. In many instances respondent producers transport their said products beyond the successive localities of several producers into far distant points of consumption, all without having encountered any competition in delivered prices from any such producer. Each producer receives reciprocal protection against price competition throughout the country in return for refraining from competing in price with other producers each of whom might otherwise sell in the territory adacent to and most naturally and economically to be supplied from his own foundry at prices which would reflect his natural advantages. The buying public thus pay higher delivered prices for pipe than if the Birmingham Plus system were not employed, to-wit, a higher aggregate of actual price plus cost of transportation.

(b) Through the inclusion, in the delivered prices which producing respondents exact, of sums measured by the rate of freight from Birmingham to the freight station of each buyer, sums greater than the actual cost of transportation from the place of production to the buyer's freight station, the buying public pay delivered prices precisely as though all the cast iron soil pipe produced in the United States were produced at and shipped from Birmingham.

(c) Advantages which would accrue to buyers located near raw materials and near cast iron soil pipe foundries under conditions of price competition are destroyed by the Birmingham Plus system. The buying public pay the same prices precisely as though there were no natural advantages for the production of cast iron soil pipe other than those at Birmingham and no means of transporting said pipe from any other producing point cheaper than those available from Birmingham to given destinations.

(d) Under the Birmingham Plus system the prices charged by respondent producers are made without regard to the varying local conditions of demand and supply. They are made through a concert of action which is formulated and expressed in terms of the Birmingham Plus system which applies throughout most, if not all, of the country.

(e) Under the Birmingham Plus system producing respondents who follow the said system and who are well located with regard to raw materials, means of transportation and proximity to large consuming populations and who are well financed and ably conducted do not avail themselves of their competitive advantages. The buying public lose the advantages of efficiency and economy in production and distribution which would result from price competition.

These are the BOILERS that YOU BUILT

PENNSYLVANIA RANGE BOILERS

More than anyone else, you plumbing and heating men on the firing line are responsible for Pennsylvania Range Boilers being what they are. Because of your demands for dependable boilers, Pennsylvania builds Range Boilers that help you maintain your reputation for installations that last and service your customers can count on.

All Welded, Riveted and Welded and Everdur Boilers in a Complete Range of Sizes. Also Boilers and Tanks of Special Shapes and Sizes Built to Order.

PENNSYLVANIA RANGE BOILER CO.
Established 1895
24th and Washington Ave. Philadelphia, Pa.

YARD HYDRANTS
WALL HYDRANTS
STREET WASHERS
FIRE HYDRANTS

Send for the KUPFERLE List of OUTDOOR HYDRANTS

80 KUPFERLE YEARS

Eighty years of quality production. Freeze-proof hydrants that have proven their superiority through years of service. For an outdoor hydrant of assured performance and lasting worth, specify "Kupferle."

JOHN C. KUPFERLE FOUNDRY CO.
ST. LOUIS

SEND FOR DESCRIPTIVE LISTS OF OUTDOOR HYDRANTS
ALSO
CAST IRON PLUMBING SPECIALTIES
AND
CAST IRON HARDWARE SPECIALTIES

(f) By the concert of action embodied in the Birmingham Plus system the buying public are caused to pay artificially enhanced prices for cast iron soil pipe.

Paragraph Seven: In further support of the combination alleged in Paragraph Four producing respondents have agreed upon and now employ uniform terms of sale, a standardized form of contract and a uniform system of classification of buyers and of preferential discounts to certain classes of buyers.

Paragraph Eight: Respondents in pursuance of their combination averred in Paragraph Four have used various means, including meetings, correspondence, persuasion and constraint upon members of the Association who do not adhere thereto, and upon resistant producers not members of the Association, to carry the same into effect and thereunto have employed the Association and its officer respondents and other agents and representatives.

Paragraph Nine: The acts and practices in this Count set forth are all to the prejudice of the public and are destructive of the competition of respondent and nonmember producers of cast iron soil pipe; they have a substantial and dangerous tendency to hinder, lessen, restrict and restrain, and actually have unduly, directly and substantially hindered, lessened, restricted and restrained, price competition in interstate commerce in said pipe; they have increased the prices of said pipe to the buying public; and they constitute unfair methods of competition within the intent and meaning of the aforesaid Federal Trade Commission Act.

COUNT II

Paragraphs One to Five, Inclusive: Paragraphs One to Five, inclusive of Count I of this complaint are hereby incorporated in this Count II, with the same respective numerical designations and to the same extent as if they and each of them were set forth in full and repeated verbatim in this Count.

Paragraph Six: The producing respondents located at points other than Birmingham, in so far as they follow the Birmingham Plus system, sell at delivered prices which comprise the base price at Birmingham plus the freight from Birmingham to destination. Such delivered prices are not, however, the actual prices received by such respondents. In order to derive the actual prices received, the prices which the producing respondent actually pays for transportation of the pipe to the buyer must be deducted from the delivered prices. The actual costs which producing respondent incurs for such transportation vary with the respective locations of the buyers. Such producing respondent charges buyers, who are located in the cities where his foundry is also located, higher actual prices than he charges to other buyers. The producing respondents located elsewhere than at Birmingham thus discriminate in substantial amounts among their buyers. These discriminations are made with the purpose alleged in Paragraph Four.

Paragraph Seven: (a) The operation of the Birmingham Plus system and the discriminations in price resulting therefrom are susceptible of illustration by a comparison of typical delivered prices with corresponding actual prices received for pipe at locations named below in sub-paragraph (c) of this Paragraph. The said prices are not averred as actually having been quoted or charged at any particular time or necessarily at any time. They

TWO OF A KIND!
At right: Model G6 SIEVERT Torch. Is interchangeable with G7 to secure wider range of combinations.
At left: Model G7 SIEVERT Torch. Ideal for brazing and similar jobs where a large heat output is required.
IN every torch . . . in every piece of equipment in the SIEVERT line, you'll find that same superiority of design and construction which has characterized the SIEVERT name for the last fifty-five years. • The two torches shown above exemplify the entire line. They are particularly adapted to use on your plumbing, heating and air conditioning jobs . . . those jobs where you can't afford to take chances on inferior equipment. Once you use a SIEVERT Torch on this type of work you will be convinced of its efficiency and economy of operation which result in saving time.
Descriptive data on these torches and other equipment in the SIEVERT line is available upon request. Write for it today.
Trade
MAX SIEVERT STOCKHOLM
Mark
JOHN H. GRAHAM & CO. Inc.
Sole Agents in the U.S.A.
113 CHAMBERS STREET, NEW YORK
FOUNDED 1882

It can't leak . . .
EAGLE Super FLANGE
Eagle super roof flange
all one piece . . . all lead. Easier to install because it adjusts to any roof pitch.
THE EAGLE-PICHER LEAD COMPANY • CHICAGO • JOPLIN • CINCINNATI
FOR YOUR PROTECTION this product is sold only through recognized plumbing supply jobbers — who in turn loyally support master plumbers.

are illustrative of prices quoted and charged in this industry in the regular course of business and show typical discriminations which occur as the result of the Birmingham Plus system.

(b) For the purpose of the illustrations below set forth, these assumptions are made: (1) that the Birmingham Plus system is in full effect; (2) that after making the basic discount, the existing base price per ton is $40.00; (3) that each producer actually ships all-rail rather than availing itself of less costly truck or water delivery, and (4) that buyers are located at the points named.

(c) For each respective sale postulated in each illustration, about to be given, the identical base price per ton at Birmingham is first given; second the all-rail rate of freight per ton from Birmingham to the point named; third appears the sum of these two factors, constituting the delivered price; fourth the current all-rail rate of freight from the point of production to the freight station of the buyer; fifth appears, by subtraction of the fourth item from the third, the actual price which the producer receives at the respective points named. The illustrations above described are submitted in tabular form in lieu of extended textual averment and are hereby made a part of this complaint, to-wit: (See page 68.)

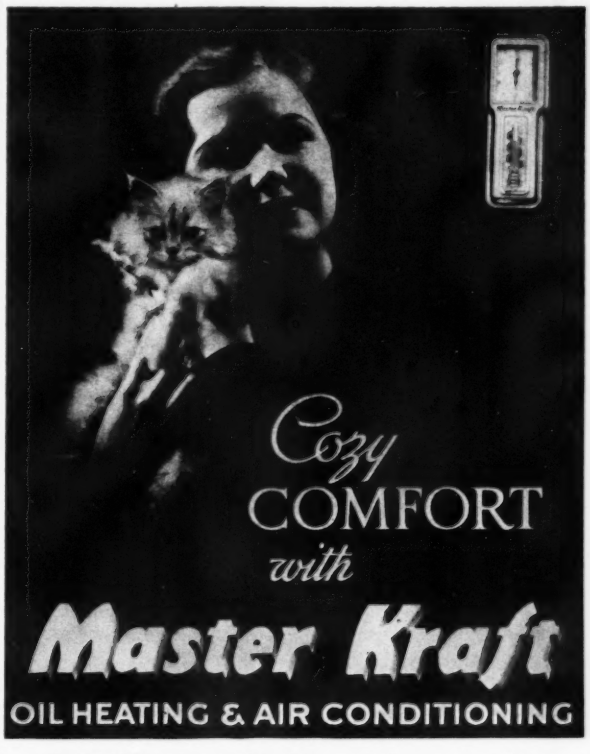
Paragraph Eight: The discrimination in price as set forth in Paragraphs Six and Seven of this Count is the result of the combination alleged in Paragraph Four. By means of the said discrimination and in accordance with the aforesaid purpose under which it was undertaken, competition in price is eliminated among producing respondents and non-member producers to the precise extent that the Birmingham Plus system is followed. To such an extent, every producer knows what every other producer following the system will quote and charge as his delivered price at any given destination, and that such delivered prices will be identical. Each said producer knows that, in reciprocity for his omission to offer price competition in the consuming areas where he has a natural advantage and where he receives his highest actual price, he will receive the same immunity from price competition when he sells in the consuming areas where any other producer following the system receives his highest actual price. Each reciprocally waives the advantages which he has in certain consuming areas in order that there may not be anywhere competition in price between producers who, except for such reciprocal waiver, would be in normal active competition in price.

Paragraph Nine: The acts of discrimination in interstate commerce, and in the course of such commerce, in this Count set forth may have the effect substantially to lessen competition, and actually do substantially lessen competition in cast iron soil pipe of like grade and quality and constitute unlawful discrimination in price within the intent and meaning of Section 2 of the aforesaid Clayton Act as amended by the aforesaid Robinson-Patman Act.

Wherefore, the premises considered, the Federal Trade Commission on the 26th day of March, A. D. 1937, now here issues this its complaint, comprising Counts I and II, against said respondents, stating its charges in that respect as hereinabove set out.

NOTICE

Notice is hereby given you, Cast Iron Soil Pipe Association, an unincorporated Association. . . . . The presi-



ABOVE is shown the theme of the great advertising and merchandising campaign now being placed behind the MASTER KRAFT line.

Featuring by Radio, Newspaper and Direct Mail Advertising, the TWO great EXCLUSIVE advantages of the MASTER KRAFT Oil Burner:

SUPER-SAFETY by means of the patented and exclusive BORKONTROL.

TRIPLE-ATOMIZATION by means of the patented and exclusive TRIPALATOR.

Write now for details

HARVEY-WHIPPLE, INCORPORATED
574 Emery Street, Springfield, Mass.

USE THIS COUPON FOR QUICK ACTION

Harvey-Whipple, Inc.
574 Emery St., Springfield, Mass.

Please send me details of the MASTER KRAFT LINE OF OIL HEATING EQUIPMENT.

Name .....

Address .....

City ..... State .....

Sleep at the Edge of the Atlantic Ocean!

The PRESIDENT
ATLANTIC CITY'S
Distinctive Boardwalk Hotel

Every Comfort is Yours at Moderate Cost at This Splendid Boardwalk Hotel. Five Hundred Rooms with Salt Water Baths. Turkish Baths, Solariums, Indoor Swimming Pool. Fall and Winter Reservations May Be Made Now—for Rooms or Beautiful Housekeeping Apartments, Luxuriously Furnished. Famed European Restaurant. Full Information and floor plans from

W. H. ALBRIGHT, Manager
Eight Miles of Glorious Boardwalk

In Philadelphia it's the

HOTEL PHILADELPHIAN
FORMERLY HOTEL PENNSYLVANIA

Highly recommended by experienced travelers the world over for its warm hospitality; its excellent cuisine served in comfortably Air-Conditioned Restaurants; its convenient location to the business section; and its unlimited parking facilities.

600 ROOMS with bath from $2.50 up

DANIEL CRAWFORD, JR.
MANAGER

39TH AND CHESTNUT STREETS
PHILADELPHIA, PA.

dent, vice president, treasurer and executive secretary, respectively, of said Cast Iron Soil Pipe Association; and corporations, members of said association, respondents herein, that the 30th day of April, A. D., 1937, at 2:00 o'clock in the afternoon, is hereby fixed as the time, and the offices of the Federal Trade Commission in the City of Washington, D. C., as the place, when and where a hearing will be had on the charges set forth in this complaint, at which time and place you will have the right, under said Act, to appear and show cause why an order should not be entered by said commission requiring you to cease and desist from the violation of the law charged in the complaint.

You are notified and required, on or before the twentieth day after service upon you of this complaint, to file with the commission an answer to the complaint. If answer is filed and if your appearance at the place and on the date above stated be not required, due notice to that effect will be given you. The rules of practice adopted by the commission with respect to answers or failure to appear or answer (Rule VII) provide as follows:

In case of desire to contest the proceeding the respondent shall, within twenty (20) days from the service of the complaint, file with the commission an answer to the complaint. Such answer shall contain a short and simple statement of the facts which constitute the ground of defense. Respondent shall specifically admit or deny or explain each of the facts alleged in the complaint, unless respondent is without knowledge, in which case respondent shall so state.

* * *

Failure of the respondent to file answer within the time above provided or failure to appear at the time and place fixed for hearing shall be deemed to authorize the commission, without further hearing or notice to respondent, to proceed in regular course on the charges set forth in the complaint, and to make, enter, issue, and serve upon respondent findings of fact and an order to cease and desist.

If respondent desires to waive hearing on the charges set forth in the complaint and not to contest the proceeding, the answer may consist of a statement that respondent admits all the material allegations of the complaint to be true. Any such answer shall be deemed to waive a hearing thereon, and to authorize the commission, without trial and without further evidence, or other intervening procedure, to make, enter, issue, and serve upon respondent:

(a) In cases arising under section 5 of the Act of Congress approved September 26, 1914, entitled "An act to create a Federal Trade Commission, to define its powers and duties, and for other purposes" (the Federal Trade Commission Act), or under sections 2 and 3 of the act of Congress approved October 15, 1914, entitled "An act to supplement existing laws against unlawful restraints and monopolies, and for other purposes" (the Clayton Act), or under section 2 of the aforesaid Clayton Act as amended by "An act to amend section 2 of the act entitled 'An act to supplement existing laws against unlawful restraints and monopolies, and for other purposes' approved October 15, 1914, as amended (U. S. C., title 15, sec. 13), and for other purposes," approved June 19, 1936 (the Robinson-Patman Act), findings of fact and an order to cease and desist from the violations of law charged in the complaint.

Pump Engineering—

(Continued from Page 84)

of straight pipe which would have the same friction loss as the 6 in. pipe shown in "D" is given in "E."

Assuming that the dimensions of the pipe shown in "B" are those noted on the same line in Fig. 5 on "F" then the line may be laid out to scale as shown in "G" and it will be found that, when the 6 ft. equivalent length is inserted in the place where each fitting occurs, the overall length of pipe will amount to 124 ft. which checks with that previously calculated.

Since all pipe and fittings now may be transposed into e.l.r. or equivalent length of straight pipe, all that is needed is to know the friction of water flowing through straight pipe and any problem in friction may be solved. As a matter of convenience, the friction for the flow of water through straight pipes usually is given in pounds, or feet, of loss per 100 ft. of run. As friction is directly proportional to the length, and with the drop per 100 ft. of run known, the drop for any other length is obtained easily by pointing off two places (dividing by 100) and multiplying by the actual e.l.r. The curves presented in Figs. 1, 2, 3, 6 and 7 are based on the drop in pounds per 100 ft. of run. By finding the g.p.m. on the scale at the left, and proceeding directly to the right until the pipe curve is intersected, there will be found directly under this curve, on the bottom scale, the drop per 100 ft. of run which will occur for the pipe size represented by the curve.

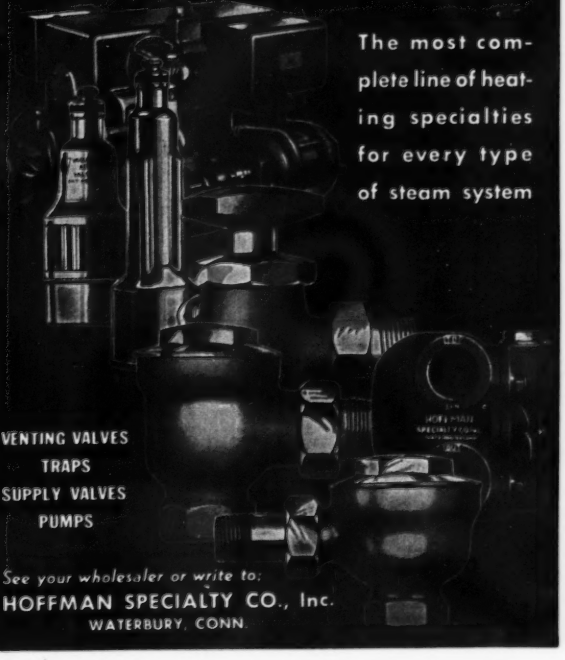
The amount of drop to be used is entirely a matter for the designer to decide but in general it may be said that for pumps where the theoretical horsepower (which will be taken up farther on) exceeds 20 horsepower, the total drop usually is made around 5 lb., and where the theoretical horsepower exceeds 50 horsepower the total drop usually is around 10 lb. In cases of mere circulation, such as on drinking water systems, where the water is only rotated and pipe friction is the only load on the pump, the total drop may run from 10 lb. to 20 lb. These are purely arbitrary figures, however, and the drop may be made anything which best suits the installation.

TABLE IV
BRAKE HORSEPOWER FOR PUMPING AT DIFFERENT PUMP EFFICIENCIES

Efficiency of Pump Per cent	Power Required to Raise 1 Gpm. 1 Ft. Brake Horsepower
100	0.000253
95	0.000266
90	0.000281
85	0.000298
80	0.000316
75	0.000337
70	0.000360
65	0.000387
60	0.000420
55	0.000458
50	0.000505
45	0.000560
40	0.000630

In Fig. 4, there is shown a typical installation in which a pump is taking suction from a well and is de-

ON HARD OR SOFT WATER
KLEEN TUBE
WATER HEATERS
SAVE MONEY FOR EVERYONE
No replacements are ever necessary because all tubes are *straight* and open at both ends—easily cleanable. Deposits of lime are inhibited because the high, burnished finish of the tubes is not destroyed by bending or forming. Kleen-Tube may be maintained at original efficiency for the life of any heating plant.
ASK FOR COMPLETE DATA
ADAMS ENGINEERING CO., Inc.
2607 Wentworth Ave. Chicago

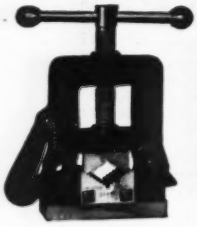
HOFFMAN
SPECIALTIES

The most complete line of heating specialties for every type of steam system
VENTING VALVES
TRAPS
SUPPLY VALVES
PUMPS
See your wholesaler or write to:
HOFFMAN SPECIALTY CO., Inc.
WATERBURY, CONN.

☆ ★ ☆
A Fine Modern Basin Faucet
HIGH BODY
☆ ★ ☆
To meet Code Requirements —Made Right— Moderately Priced. *Sold Through Jobbers.*

Fig. 523

H. B. SHERMAN MFG. CO., BATTLE CREEK, MICH.

Look for the *Arm-and-Hammer*
ARMSTRONG BROS.
Unbreakable Hooks

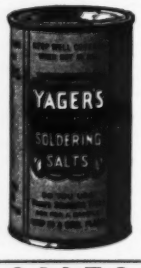


ARMSTRONG BROS. Standard Pipe Vises are automatic locking, quick in action, convenient in use. Bodies are of Certified Malleable Iron with *unbreakable drop forged steel hooks*. Jaws are of tool steel, hardened tempered and tested. Teeth are milled. Screws are of special steel with double-wear threads. Handles have oval ends that will not pinch hands. This greatly improved vise costs no more than others of standard make. Be sure to see it before you buy. Look for the Arm-and-Hammer.

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
323 N. Francisco Ave. CHICAGO, U. S. A.
Eastern Warehouse and Sales Office: 199 Lafayette St., New York, N.Y.
Write for Catalog P-35

YAGER'S *PROTECTS VITAL POINTS*

For the safest and surest protection against joint failures, use YAGER'S Soldering Salts on every soldering job. Effecting quicker, easier flow of solder, YAGER'S Salts enable you to complete each job in less time, with less labor and less solder. Write for your sample can today and see for yourself.



ALEX. B. BENSON CO., Inc., Hudson, N. Y.
List of distributors in McRae's Blue Book
Sales Agency for Canada:
Canadian General Electric Co., Toronto, Montreal

YAGER'S SOLDERING SALTS

MOST SILENT OPERATING VALVE

SLATER No. 2-A Vacuum Valve

FOR HEATING COMFORT AND CUSTOMER SATISFACTION
come to headquarters!
Slater Mfg. Co., Wakefield, Mass.
U. S. Distributor
Smith & Dale, 457 Stuart St., Boston, Mass
New York Office:
1440 Broadway, New York City
Telephone—Penn. 6-0277

livering water through a 4 in. pipe to a point 47 ft. higher with 56 ft. of horizontal run and 49 ft. of vertical run. If the pump delivers 400 g.p.m., what will be the total head on the pump?

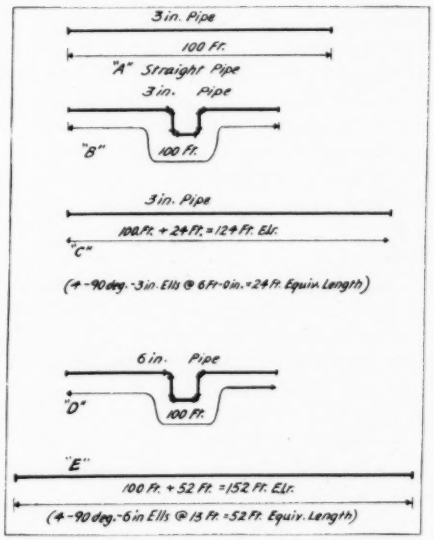

3 in. Pipe
100 Ft.
"A" Straight Pipe
3 in. Pipe
"B"
100 Ft.
3 in. Pipe
100 Ft. + 24 Ft. = 124 Ft. Elr.
"C"
(4 - 90 deg. - 3 in. Ells @ 6 Ft - 0 in. = 24 Ft. Equiv Length)
6 in. Pipe
"D"
100 Ft.
"E"
100 Ft. + 52 Ft. = 152 Ft. Elr.
(4 - 90 deg. - 6 in Ells @ 13 Ft. = 52 Ft. Equiv. Length)

Fig. 8—Diagram shows examples of conditions which must be considered in figuring e.l.r.

The total length of straight pipe is 105 ft., and the equivalent length for the fittings amounts to

7—4 in. 90 degree ells at 8 ft.	56	ft.
1—4 in. gate valve at 4½ ft.	4.5	ft.
*2—4 in. checks at 8 ft.	16	ft.
Total fitting e.l.r.	76.5	ft.
Total pipe length	105	ft.
Total e.l.r.	181.5	ft.
Loss per 100 ft. e.l.r. with 400 g.p.m. flowing from curve on Fig. 6.	4.7	lb.
Total drop on line (4.7 lb. / 100) × 181 ft. or 9.0		lb.
Gravity head, 47 ft. × 0.43 lb.	20.21	lb.

*These may be variable. They are taken here to be the same as a 90 degree ell.

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Total head on pump for gravity and friction...29.21 lb.
Allowances for minor losses 10 per cent..... 2.92 lb.

Total pump head required .....32.13 lb.
say 33 lb.

3% per Degree—

(Continued from Page 90)

average outside temperature of 40 deg. Fahr., the average temperature difference maintained will be

71 deg. Fahr. minus 40 deg. Fahr., or 31 degrees

and 31 degrees/30 degrees equals 1.033
which is 3 1/3 per cent additional.

If it is assumed that the added number of days on which heating would be required is negligible then the question comes up the same as before as to whether the night temperature would be similarly raised 1 degree, or whether the same night temperature would be carried as before. If the night temperature is not raised the average temperature difference again would be modified by having only 2/3 of the value shown above the same as in the degree day method, which results in an increase equal to the amount shown as follows:

$$0.033 \times 2/3 \text{ or } 0.022 \text{ or } 2.22 \text{ per cent.}$$

This brings up another point that when an inside temperature of 70 deg. Fahr. is assumed, it is not 70 deg. Fahr. for 24 hours a day, but is 70 deg. Fahr. for only about 2/3 of the time with a night temperature probably around 60 deg. Fahr. This makes the average house temperature on a 70 deg. Fahr. basis reduce to

70 deg. Fahr. × 2/3..... 46 2/3
60 deg. Fahr × 1/3..... 20

Average temperature ..... 66 2/3 deg. Fahr.

while for the house on a 71 deg. Fahr. basis the average house temperature would be

71 deg. Fahr. × 2/3..... 47 1/3
60 deg. Fahr. × 1/2..... 20

Average temperature..... 67 1/3 deg. Fahr.

TIME REQUIRED 5 SECONDS

Loosen 3 wing nuts . . lift off upper structure . . slip on extra handle . . and you have, for use in *any* position, a heavy duty blow torch for thawing and for melting lead from soil pipe. A simple, fast heater . . 20 lbs. solder melted in 7 minutes, 40 lbs. in 10 minutes. *Flame finely controlled*, 2 to 10-in. length. Operates 4 to 6 hrs. on 1 gal. gasoline. All parts accessible. Ask for details.

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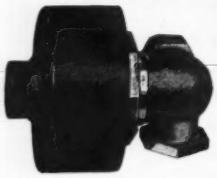

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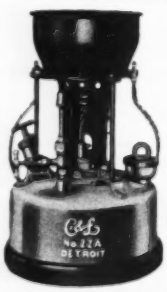

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and with this modification the increase in average temperature difference maintained would be as indicated by the next equation:

(67 1/3 minus 40)/(66 2/3 minus 40)
or
27 1/3 / 26 2/3

which gives 1.025 or 2½ per cent increase.

TABLE III

Month in Heating Season	Degree Days per Year	Proportion of Total Degree Days Per cent	Degree Days in Month	Degrees below 65 Deg. Fahr.	Average Month's Temperature Deg. Fahr.
Oct.	5,348	7.98	428	14	51
Nov.	5,348	12.96	692	23	42
Dec.	5,348	17.07	910	29	36
Jan.	5,348	19.01	1,020	33	32
Feb.	5,348	18.18	970	35	30
Mar.	5,348	14.87	797	26	39
Apr.	5,348	9.93	530	18	47
Year	5,348	100.00	5,348	25.2	40

From the foregoing it may be concluded that with the temperature raised 1 degree for 24 hours a day the increase will approximate

By the degree day method..... 3.97 per cent
By average temp. diff. method.. 3.33 per cent

Or an average of ..... 3.65 per cent

and allowing for a lower night temperature which it is assumed will not be increased.

By the degree day method..... 2.65 per cent
By average temp. diff. method.. 2.22 per cent

Or an average of ..... 2.43 per cent.

while the modified temperature difference method shows 2.50 per cent.

It may be concluded from these figures that the allowance of 3 per cent for each degree rise above 70 deg. Fahr. maintained is very close to what will be secured, but that if the night temperatures are still kept at or

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about 60 deg. Fahr. the increase will amount to about 2½ per cent.

Thus it is seen from these calculations that the answer to the original question is in the affirmative. In other words, the common reference to 3 per cent is based on fact.

Cooling—

(Continued from Page 76)

gr. per lb.) with 4.1 gr. added in the room it is obvious that the supply air must contain

77.9 gr. — 4.1 gr. or 73.8 gr. absolute humidity.

The humidity conditions for the air then become, in grains per lb.

Outside air ..... 128.1 gr.
Recirculated air ..... 77.9 gr.
Supply air ..... 73.8 gr.

The refrigeration load for cooling and dehumidifying the air now may be calculated as follows:

Cooling the outside air

$$\frac{2{,}946 \text{ lb.} \times (95 \text{ deg. Fahr.} - 58 \text{ deg. Fahr.}) \times 0.24}{12{,}000 \text{ Btu. per hr.}} = 2.18 \text{ tons}$$

Cooling the recirculated air

$$\frac{8{,}837 \text{ lb.} \times (80 \text{ deg. Fahr.} - 58 \text{ deg. Fahr.}) \times 0.24}{12{,}000 \text{ Btu. per hr.}} = 3.88 \text{ tons}$$

Dehumidifying the outside air

$$\frac{2{,}946 \text{ lb.} \times (128.1 \text{ gr.} - 73.8 \text{ gr.}) \times 1{,}000}{7{,}000 \text{ gr.} \times 12{,}000 \text{ Btu. per hr.}} = 1.90 \text{ tons}$$

Dehumidifying the recirculated air

$$\frac{8{,}837 \text{ lb.} \times (77.9 \text{ gr.} - 73.8 \text{ gr.}) \times 1{,}000}{7{,}000 \text{ gr.} \times 12{,}000 \text{ Btu. per hr.}} = 0.44 \text{ tons}$$

Total refrigeration required ..... 8.40 tons

and probably a ten ton refrigeration plant would be used.

In explanation of the above calculations it should be noted that it is assumed that *all air passes through the washer;* consequently, if the number of grains in the supply air must be 73.8, the temperature at which the saturated air must leave the washer will be between 58 deg. Fahr. and 59 deg. Fahr., which has been taken as 58 deg. Fahr. in the calculations. Thus in the first equation the temperature of the outside air is reduced

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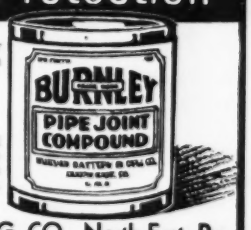

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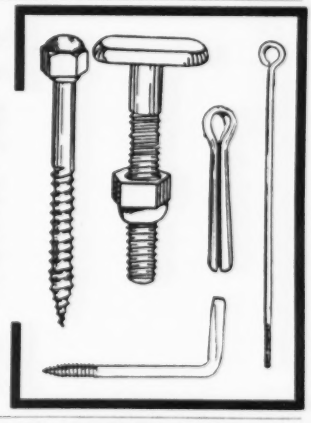

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from the entering temperature of 95 deg. Fahr. to the temperature leaving the air washer of 58 deg. Fahr. and 0.24 is the specific heat of a pound of air, while 12,000 Btu. per hour is the heat equivalent of one ton of refrigeration.

In the second equation the recirculated air is reduced from the room temperature of 80 deg. Fahr. at which it returns to the washer down to 58 deg. Fahr. at which it leaves the washer all other factors being the same as in the first equation. The 2,946 lb. and the 8,837 lb. used are the amounts of each kind of air treated and respectively equal 25 per cent and 75 per cent of the total air supplied.

In the third equation the amount of tonnage required to remove the moisture from the outside air is calculated and this air enters the washer with 128.1 gr. per lb. and leaves with 73.8 gr. per lb., or a removal of 54.3 gr. per lb. This 54.3 gr. multiplied by the number of pounds of air treated (2,946 lb.) and divided by 7,000 gr. to a pound of moisture gives the number of pounds of moisture per hour removed from the outside air; as water vapor in condenser gives up about 1,000 Btu. per lb., the number of Btu. to be removed will be the pounds of moisture condensed times 1,000 Btu. and this total Btu. divided by 12,000 Btu.—the equivalent of one ton of refrigeration—gives the tonnage required for this portion of the work. Now to consider the fourth equation.

"Could you install one of those faucet washers I've heard about? I'd like to have one to use when the sink gets dirty."*

The fourth equation is a similar one except that the recirculation air is considered (8,837 lb.) and the grains in this air as it enters the washer amount to 77.9 per lb. (the same as in the room air) while, when it leaves the washer saturated, it will contain 73.8 gr., which is the required absolute humidity of the supply air. It will be noted that the difference between these two figures is exactly 4.1 gr. (or the amount of moisture added in the room to every pound of air as it passes through the room) and this is correct.

If all the air passes through the washer and leaves the washer saturated at 58 deg. Fahr. but at the same time enters the room at 15 deg. Fahr. below the room temperature then the temperature for the supply air must be 80 deg. Fahr. minus 15 deg. Fahr. or 65 deg. Fahr. Consequently heat must be added to the supply air after it leaves the washer amounting to

65 deg. Fahr. — 58 deg. Fahr. or about 7 deg. Fahr.

and the total supply air must thus be heated amounting in Btu. to the addition of

11,783 lb. × 7. deg. Fahr. × 0.24 Btu. or 19,795 Btu. per hr.

A summary of the calculations may now be set up from which the system may be designed, this being as follows:

Summary

Total heat to be removed. Sensible ..... 35,633 Btu.
Total air required..... Outside ..... 650 c.f.m.
Recirc. ..... 1,950 c.f.m.
Supply ..... 2,600 c.f.m.

or

Outside. 2,946 lb. per hr.
Recirc.. 8,837 lb. per hr.
Supply.. 11,783 lb. per hr.
Refrigeration Required ..... 8.40 tons
Refrigeration per 1,000 c.f.m..... 3.2 tons

If it is assumed that air pipes can be brought up from the basement through the ground floor a supply and return circulation duct may be run across the ceiling along the outside wall in the shape of a furred beam as indicated in Fig. 4, a cross section of this beam being shown in Fig. 5. For the sake of appearances and also to favor the outlets at the far end of the duct it probably will be well to make this in the form of a box without reduction as the air is taken off. Since there are 2,500 c.f.m. to supply, if a velocity in this duct of say, 600 f.p.m. is assumed the area of the supply duct will have to be

2,600 c.f.m./600 f.p.m. or 4⅓ sq. ft.

and a duct 34 in. × 18 in. would be about the right size as indicated in Fig. 6.

AMOUNT OF RECIRCULATED AIR

On the recirculated air the amount to be handled is 1,950 c.f.m. and at a similar velocity the area of the recirculation duct would have to be

1,950 c.f.m./600 f.p.m. or 3¼ sq. ft.

and a duct 26 in. × 18 in. would give this area. The cool air then would be delivered horizontally out from the supply duct, would spread across the ceiling gradually dropping as the velocity of the discharge is lost and falling to the floor where it picks up the sensible heat as it moves toward the outside wall where it rises up and enters the recirculation duct as shown in the diagram at the bottom of Fig. 4.

In introducing cool air into a room it always is desirable—and, in fact, is a necessity—to obtain the best distribution possible if cold draughts and complaints are

*What's your idea for a cartoon? The idea for the cartoon on this page was suggested by H. N., Birmingham, Ala. Readers who send in ideas acceptable for future cartoons will receive the original drawing.

to be avoided. For this reason a slot along the entire length of the duct may be used, the size of such a slot if based on an outlet velocity of 250 c.f.m. would be

2,600 c.f.m./250 f.p.m. or 10.4 sq. ft.

The length of the duct in the room is about 35 ft., of which 30 ft. will be assumed as usable to allow the slot to be broken into sections and to terminate within the length of the duct. Then the width of the slot would have to be

10.4 sq. ft./30 lin. ft. or 0.35 ft.,

which is

0.35 ft. × 12 in. or 4.2 in., say 4 in.

If it is desired to use grilles instead of the slot the grilles may be assumed as 15 in number, each 24 in. long and actually occupying about 30 lin. feet, leaving 5 feet for spacing and the ends. The height of the grille then would be the same as the slot but if a slight allowance is made for the free area being less it is probable that grilles 6 in. high would be used with key operated louvres for adjusting the air flow equally. On the return circulation duct grilles probably would be used in either case and could be made say 12 in. × 12 in. In this event the area of each grille would be 1 sq. ft. and if 400 f.p.m. velocity is used through these grilles the required area of recirculation grille would be

1,950 c.f.m./400 f.p.m. or 4.9 sq. ft.,

showing that

4.9 sq. ft./1 sq. ft. or 5 (almost)

grilles are required. These should be spaced symmetrically along the length of the recirculation duct.

Leadwork—

(Continued from Page 78)

There are advantages in this kind of connection, and also objections. It may cost less money sometimes to use the one trap, but it has the disadvantage that when the trap or its outlet becomes clogged, two fixtures are thrown out of use rather than a single fixture.

The use of a single trap for two fixtures is also shown in Fig. 8, which illustrates connections for kitchen sink and laundry tubs.

A peculiar thing is that we have seen some codes that allow the use of one trap whether for kitchen plumbing or for the bathroom, while others allow the practice for kitchens only or for bathrooms only.

While always advocating as far as possible, a separate entrance into the drainage system for each and every fixture, nevertheless we have seen many instances where a drum trap serving two fixtures, whether in the kitchen or the bathroom, has given excellent service year after year, giving no more trouble from stoppage, apparently, than if the trap served only one fixture. In such work as this, much depends on the way the work is installed, whether the connections are made to give the greatest scouring action, for instance. Then, also, much depends on whether or not very hot water is used at such fixtures.

Each of the illustrations thus far has shown an all-lead installation. In most sections of the country not many such jobs have been installed in a considerable period of years.

We show four illustrations in which various special cast iron fittings are used. These are Figs. 2, 4, 5 and 7.

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REPRESENTATIVES WANTED

Several territories still open for sales representatives to sell, in addition to their present lines, a new and distinctive line of built-in bath, shower and lavatory fixtures. Address Key 367-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

MANUFACTURERS' REPRESENTATIVE familiar with ventilation and capable of doing a sales and engineering job with established line of Dual-Air Power Fans. Address Key 264-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

VERTISING

RATES FOR CLASSIFIED ADVERTISEMENTS

Eights cents per word, including heading and address. For keyed address count seven words. Minimum advertisement, $2.00 per insertion. Cash must accompany order. For rates on bold face advertisements in this section write to Classified Advertising Department, DOMESTIC ENGINEERING, 1900 Prairie Avenue, Chicago, Illinois.

REPRESENTATIVE WANTED

Well established manufacturer of merchant steel pipe desires a capable and experienced man to take full charge of New York sales office. Previous experience and a good personal following are essential. Give complete facts, personal history and salary expected in first letter. Address Key 358-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

MANUFACTURER, NATIONALLY ADvertised line of toilet seats, wants representative for New York State outside metropolitan area. Commission basis. Must be producer, thoroughly familiar with better class jobbing trade. Give complete, detailed information and history, lines now handling, type trade sold, territory covered, etc. Line is a money maker for man who can meet our strict requirements. Address Key 365-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

DISTRIBUTORS, JOBBERS, DEALERS —Write at once for the special merchandising offer and low prices on A. G. A. Approved Koil-Les Automatic Gas and Oil Fired Water Heaters. KOIL-LES HEATER CO., Geneva, Illinois.

SELL ROCHESTER CIRCULATORS— They stay sold without profit eating servicing because they stay quiet—cost less—liberal commission. Address Key 366-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

WANTED — SALES ORGANIZATION covering plumbing supply houses in Chicago and Detroit. Give territory covered and lines handled. Address Key 364-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

LINES WANTED

WISH TO REPRESENT WELL ESTABlished manufacturer of pipe or boilers, radiators or specialties. Have splendid following among highest rated architects, engineers, heating-plumbing contractors, jobbing concerns New York State. 22 years' experience every branch of heating-plumbing industry. Address Key 373-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

SALES REPRESENTATIVE

Experienced sales representative with extensive knowledge of the heating industry, desires progressive lines of heating boiler,—specialties —and air conditioning equipment for New England. High grade references furnished. Address Key 372-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

MANUFACTURERS' AGENT HAVING fifteen years sales experience with metropolitan New York and New England wholesalers, desires representation of an additional major product. Address Key 370-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

LINES WANTED—MANUFACTURERS' representative covering Philadelphia and vicinity desires additional lines. Address Key 363-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

FOR SALE

FOR SALE

Plumbing and heating business in one of the large cities on the Pacific coast in Oregon. Doing $100,000.00 business yearly. Old company, well established, in business fifteen years. Doing large volume of business today. Good reasons for selling. Address Key 362-D, "Domestic Engineering," 1900 Prairie Avenue, Chicago, Illinois.

MISCELLANEOUS

ARE YOU QUALIFIED?

Ask yourself this question:

Can I give an Engineered Job to my Customer, or Employer? Don't be like the firm whose Foreman installs scores of jobs, but freely acknowledges he knows nothing about heat losses, friction, pipe sizings, flow of fluids, trouble shooting, etc. Let us help you get down to fundamentals. The School Trains you in your Own Home, Personal, Clear, Direct, by Home Study. This is our 27th year of successful Educational work. Write us today for full information of Courses interested in, no obligation—Do It Now.

- ☐ **Heating and Ventilating Engineering**
- ☐ **Steam and Hot Water Heating**
- ☐ **Air Conditioning & Refrigeration**
- ☐ **Plumbing and Sanitary Engineering**
- ☐ **Estimating and Contracting**

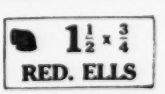
ST. LOUIS TECHNICAL INSTITUTE
4541 Clayton Ave. St. Louis, Mo.

JOB TICKETS, TIME SHEETS

Contract Blanks, Estimate Sheets, Letter Heads, Social Security Pay Envelopes and other printed forms for plumbers our specialty. Reasonable prices and prompt attention to inquiries and orders. Write for samples.

LOUIS FINK & SONS CO.
Trades Building, Laurel Springs, N. J.

PLUMBERS' BIN LABELS



Send for free samples and prices for plumbers' bin labels, Metal Card Holders, Celluloid Card Protectors and Blank Cards. Haddon Bin Label Co., Haddon Heights, N. J.

WATER PUMPED WITH RIFE RAM

from spring, creek or artesian well having 2-ft. fall or more, flowing 2 gallons per minute or more. Positive Air Feed Regulation absolutely prevents Air Chamber filling up with water. High Base Construction . . . all-important and exclusive Rife feature. Rife Rams nationally advertised. Guaranteed. Send for Catalog and agency proposition. Rife Ram & Pump Works, Box 24, Waynesboro, Virginia.

PIPE COUPLINGS

We can turn your old surplus pipe couplings into CASH or, if you need pipe couplings we can supply you from stock AT A SAVING. Write

Russell F. Kleinman
5315-17 No. 2nd St., Philadelphia, Pa.

WITH HAROLD ELECTRIC MODEL E THAWER

Denver plumber in winter of 1929-30 thawed 300 services, $3,000.00 worth of business. A GOOD INVESTMENT. Order yours and really make money. Order now before the next freeze.

HAROLD ELECTRIC CO.
Walla Walla Washington

USE THE CLASSIFIED ADVERTISING SECTION to get what you want. If you are looking for competent employes; or if you contemplate a change in position, have a patent for sale; wish to purchase or sell a plumbing and heating business; second-hand machinery or tools; form a co-partnership, etc., your advertisement on this page will put you in touch with the people you desire to reach. The cost of insertion is eight cents a word, and may mean many dollars to you. Address classified advertisements to The Classified Advertising Department, "Domestic Engineering," 1900 Prairie Ave., Chicago, Ill.

BOOKS

AIR CONDITIONING SIMPLIFIED—A book which gives a step by step story of air conditioning, what it is, how it works, what is does, how to install it, how it is sold. The book is written in three complete parts from the pens of the leading authorities in the industry and edited by Harold L. Alt, heating engineer. The first part is on theory, the second part on the application of the theory and the third part on getting air conditioning business. 216 pages, 5½x8¼, bound in cloth —price postpaid $1.00.

DOMESTIC ENGINEERING
Books Sent Parcel Post Prepaid
1900 PRAIRIE AVENUE CHICAGO

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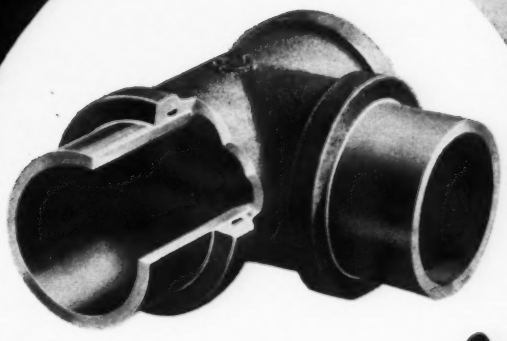
YOUR PIPING!



Run it easier... quicker... and leak-proof... with Walseal

In ever-increasing numbers the swing is towards Walseal Fittings and Valves for the brass or copper pipe line. Users know that a Walseal joint is stronger than the pipe itself. This modern joint cannot creep . . . cannot pull apart under any temperature to which the pipe can safely be subjected. Vibration cannot affect it.

Thin wall copper tubing, iron pipe size, standard or extra-heavy brass pipe can be used as demanded. The proper brazing alloy is part of each fitting in the amount required. When the Silver Walseal Ring appears around the pipe a perfect joint has been made.

Write for complete information.

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VALVES FITTINGS and TOOLS
Backed by 95 Years' Service

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60 EAST 42nd STREET, NEW YORK

DISTRIBUTORS IN PRINCIPAL CITIES THROUGHOUT THE WORLD

THIS YEAR—MAKE

CONCEALED RADIATION

A FEATURE OF EVERY HEATING SYSTEM

New Arco Streamlined Convector (above) boasts complete concealment, rounded corners, new, handsome horizontal grille.

AS LITTLE AS $25 MORE FOR THE AVERAGE NEW HOME BUYS

ARCO CONVECTORS

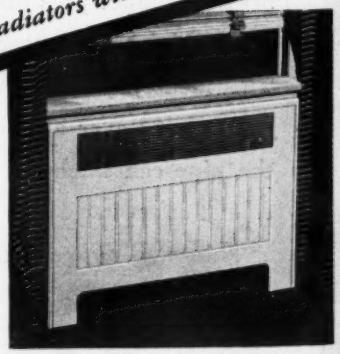
(concealed radiators with enclosures)

Here's the No. 1 heating system sales tip for 1937! This year feature concealed radiators in every system you plan. People like these attractive new radiators. Every new home builder can easily afford it. Only $25 more for Arco Convectors for the average home—slightly more for the new Arco Streamlined Convector (illustrated above) and the Radiant Convector which has the added advantages of radiant heat.

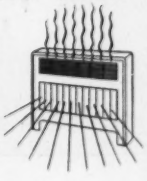
These new concealed radiators are so attractive many people will want their present radiators changed to this new style. Write now for full information about all new Arco Convector models. Learn how modern, concealed radiators will help you get more business this year.

GENUINE ARCO CONVECTORS HAVE THESE FEATURES

1. *Specially built for concealment.*
2. *Full heating efficiency: Convector and Enclosure do not have to be oversized.*
3. *Heating costs are no greater than with old style exposed radiators.*
4. *Made of corrosion resistant cast iron.*
5. *Staggered fins assure maximum air wipe.*
6. *Four widths with low height.*
7. *Priced right.*



NOW—2 KINDS OF HEAT WITH THE NEW ARCO RADIANT CONVECTOR



Convected Heat (heated air) comes through the grilles. The Radiant Front sends out rays of Radiant Heat.

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AMERICAN RADIATOR COMPANY

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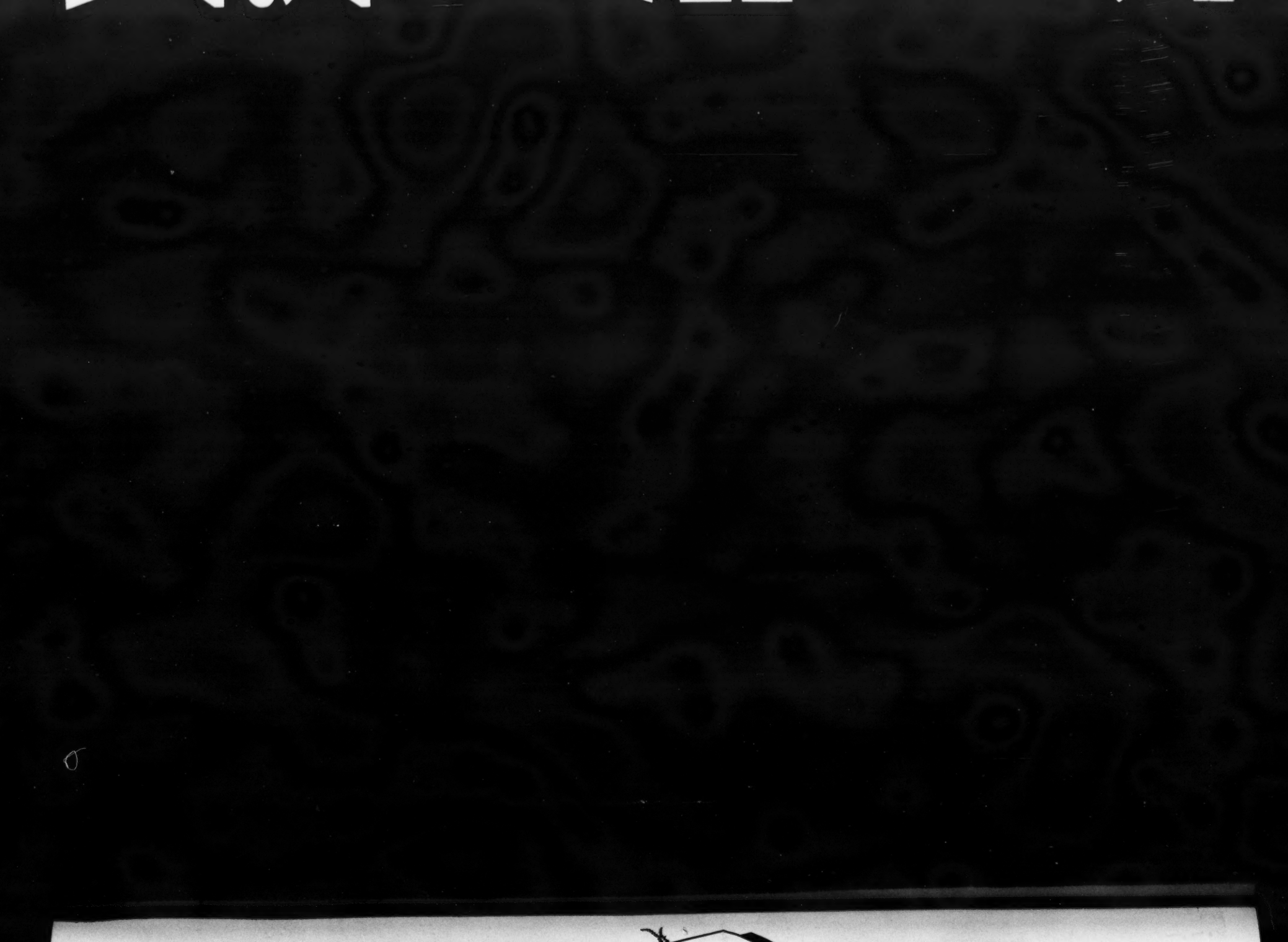
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